

Results of the 2017 Wisconsin Waterfowl Hunter Survey

Participation in Waterfowl Hunting
and Opinions of Hunting Regulations

Submitted to:

Bureau of Wildlife Management

Prepared by:

Lauren Bradshaw, Jordan Petchenik and Robert Holsman

Bureau of Environmental Analysis & Sustainability

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For additional information please contact:

Lauren Bradshaw, Jordan Petchenik, or Robert Holsman
Department of Natural Resources
Bureau of Environmental Analysis & Sustainability
101 S. Webster Street
Madison, WI 53707

lauren.bradshaw@wisconsin.gov
jordan.petchenik@wisconsin.gov
robert.holsman@wisconsin.gov

About this Report

This report presents results of a statewide survey of Wisconsin resident waterfowl hunters and conservation patron license holders regarding their waterfowl hunting behaviors and opinions regarding various aspects of waterfowl hunting and regulations in Wisconsin. The study was conducted to support the Wisconsin Department of Natural Resource's waterfowl management program. This report presents study findings, interprets the information within pertinent contexts, and may identify potentially useful lines of inquiry. This report does not, however, include specific recommendations or policy prescriptions.

Acknowledgements

We extend our thanks to Wildlife Management staff that assisted in designing and administering this survey. This includes Taylor Finger and Trenton Rohrer, the Department's migratory game bird ecologists, as well as Kent Van Horn, the Wildlife Management bird and habitat conservation section chief. Their input was crucial in developing this survey instrument and in focusing our analysis.

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Introduction

This report was written to inform the Wisconsin Department of Natural Resources' waterfowl management program on waterfowl hunter behavior as well as opinions regarding various aspects of waterfowl hunting and regulations in Wisconsin. The report examines techniques used by hunters, hunting commitment, average harvests, hunter expectations and satisfaction with Wisconsin hunts, and preferences for various management options related to duck and Canada goose hunting in the state.

The results of this study are based on data generated from a random sample of 2,700 Wisconsin waterfowl stamp purchasers equally drawn from the north, south, and Mississippi River zones (Figure 1) based on primary residence. Of these survey recipients, 1,800 were Wisconsin resident migratory game bird hunters and 900 were Conservation Patron License (CPL) holders. After a maximum of three contacts and eliminating non-deliverable questionnaires, 1,418 license holders returned the completed survey yielding a 53 percent response rate.

Detailed findings can be found in the results section but regulatory and many other secondary findings are highlighted here.

Finding 1. Considering the overall duck hunting regulation framework (including bag limits, opening day, season length, split seasons, etc.), most hunters did not feel that regulations impacted their satisfaction with duck hunting (Table 12). Season length, opening day, and the early teal season were regulations that were the most influential on overall satisfaction. While a majority of hunters (64%) still felt these regulations had no influence one way or another, one-third (34%) felt the season length had a negative impact on satisfaction, and one-quarter felt the timing of opening day (27%) and the early teal season (26%) had a negative influence on satisfaction (Figure 8). Lastly, the daily bag limit and hen limit for mallards had no influence on satisfaction for most hunters (61% and 58%, respectively); only five percent of hunters felt the daily bag limit negatively influenced their satisfaction and 18 percent felt the hen limit negatively influenced their satisfaction (Table 8).

Finding 2. Across all duck hunting zones, most hunters opposed incorporating a split in the duck hunting season but degree of opposition varied from 51 percent in the Mississippi River zone (Table 19) to 57 percent in the south zone (Table 18), and 81 percent in the north zone (Table 17). Among those who preferred a split, north and Mississippi River zone residents did not have a clear length preference but a plurality chose a 5-day or a 7-day split; half (51%) of south zone residents preferred a 5-day split. Hunters in each zone who favored a split had a clear preference for the closure to occur during the first half of the season.

Finding 3. Preferences for the opening date of the duck season varied by zone (Table 14, Table 15, Table 16). The clearest preference was for the north zone where 44 percent of north zone residents preferred opening day to fall on the Saturday nearest September 24th, the earliest possible date and the recent status quo (Table 14). No clear preference was found for the south zone or the Mississippi River zone. A plurality of south zone residents preferred the Saturday nearest October 1st but this was selected by only one-third (32%) of hunters (Table 15). The Mississippi River zone is the smallest and draws comparatively fewer duck hunters than other zones. As a result, roughly half (48%) of waterfowl hunters were indifferent to opening day in the Mississippi River zone (Table 15). Amongst those who live and hunt within the Mississippi River zone, a small plurality of 33 percent preferred opening day on the Saturday nearest October 1st (Table 16). Regarding the potential of a statewide uniform opening day, two in five (42%) hunters were indifferent and only 14% were opposed.

Finding 4. Seventeen percent of waterfowl hunters participated in the early teal season; this was roughly equal to participation rates over the previous three years (Figure 9). Nearly 70 percent (69%) of those who have participated in the early teal season one or more times supported the continuation of the season; less

than one-quarter (23%) opposed it. Among those who have never participated in the early teal season support dropped to 29 percent and more hunters felt indifferent or unsure (43%) about continuing the season (Table 20). Regarding season framework for the early teal season, those who supported the early teal season had different opinions from those who opposed or were indifferent. Those who supported the early teal season did not have a clear preference for opening day; two in five (39%) preferred the season to last the maximum of 16 days, three in five (63%) prefer the close of shooting hours at sunset and two in five (43%) prefer a bag limit of 6 birds (Table 21). Unsurprisingly, a large majority of those who oppose the season preferred the shortest season length of five days and the smallest bag limit of three birds. This survey suggests that support for the teal season could be increased from 39 percent to 58 percent if a uniform regular season opener were created as a tradeoff (Table 20, Table 22).

Finding 5. When asked if goose hunters would support the elimination of the Horicon zone for Canada goose hunting, 68 percent supported such a decision and only six percent opposed the elimination of the zone (Table 26).

Secondary Findings

1. In 2017, three out of four (75%) waterfowl hunters reported doing some duck hunting and roughly three in five (58%) reported doing some goose hunting. Half (53%) of 2017 waterfowl hunters participated in both duck and Canada goose hunting, one in five (22%) only participated in duck hunting, and five percent only participated in the goose season.
2. Among duck hunters, 72 percent hunted the south zone, 41 percent hunted the north zone, and 16 percent hunted the Mississippi River zone. Hunters reported traveling 33.8 miles one-way to their hunting locations and most (64%) do not hunt outside the zone in which they reside (Table 5; Table 6). This tendency differed for Mississippi River zone residents where over half (62%) hunted in other zones. This difference makes sense given the narrow shape of this zone both limiting hunting property options and providing easier access to other zones.
3. Overall, 50 percent of duck hunters were satisfied with their duck hunting experiences; 33 percent were dissatisfied. Interestingly, satisfied duck hunters harvested significantly more ducks than hunters who felt dissatisfied (Figure 7). In regard to specific satisfaction attributes, hunters were most satisfied with the “beauty of the areas I hunted” (82%), “access to areas I wanted to hunt” (60%), and “availability of hunting companions” (58%). Hunters were most dissatisfied with “the number of birds I harvested” (42% dissatisfied; 31% satisfied) and “the number of days I was able to hunt” (42% dissatisfied; 34% satisfied) (Figure 6).
4. Prior to hunting, most duck hunters or their hunting partners engage in some level of scouting. Specifically, 19 percent took one scouting trip, 16 percent took two scouting trips, and 29 percent took three or more scouting trips prior to hunting (Table 8). Those who scouted three or more times were found to harvest twice as many ducks as those who only scouted once (Figure 4)
5. Hunter expectations for 2017 aligned with the number of ducks seen in recent years for 73 percent of hunters (Table 11). When asked to compare ducks seen in prior years with the number of ducks that hunters saw in 2017, two in five (40%) reported about the same as recent years; one-third (36%) reported it was fewer than recent years and 24 percent reported it was more than recent years. Additionally, 54 percent reported that “ducks seen last year” moderately or greatly influenced their expectations for 2017; 55 percent reported that scouting moderately or greatly influenced their expectations (Figure 5). The effect of reports in print or online and reports from other hunters had a lesser effect of expectations.

6. Nearly three in five hunters (59%) felt they would be likely or very likely to hunt longer into December if the duck hunting season were to be extended beyond 60 days (Table 13). However, only 25 percent of duck hunters currently hunt during the available December season days.

7. Three in five (59%) respondents get information regarding the waterfowl hunting season from the Wisconsin DNR website (Table 29). Half (50%) rely on the annually published DNR regulations booklet and 47 percent rely on waterfowl hunting magazines. Other sources such as the DNR Facebook, newspaper articles, and emails from the DNR were each used by no more than 26 percent of all respondents. This varied within certain age groups with younger respondents using electronic information sources at a higher frequency than older respondents (Table 30).

8. Most (91%) respondents have waterfowl hunted at some point during the last six years (2012-2017); 45 percent of respondents hunted each of the last six seasons (2012-2017) and three in five (62%) have hunted four of the last six years (Figure 2). These results suggest a strong commitment to waterfowl hunting but that participation varies from year to year for many hunters.

9. Respondents were overwhelmingly (95%) male and averaged 47 years old. Half (48%) of respondents were 50 or older and two in five (38%) were under 40 years old (Table 27).

Methods & Sampling

Data Collection

Data collection occurred using a 12-page mail survey (Appendix C) developed in consultation with personnel from the DNR Bureau of Wildlife Management. The survey was sent to a sample of 2,700 waterfowl hunters drawn from both Wisconsin resident waterfowl stamp holders and Conservation Patron License (CPL) holders of 2017. We randomly sampled residents across the counties that comprise the north, south, and Mississippi River hunting zones in the state to generate a sufficient sample size to allow for regional comparison on certain questions (Figure 1).

A maximum of three contacts were made with each hunter, using standard mailed questionnaire techniques. These contacts included an initial questionnaire with a cover letter (signed by Taylor Finger, migratory game bird ecologist, and Jordan Petchenik, resource sociologist) and a hand stamped return envelope (known as a full mailing); a follow-up postcard which served as a “thank you” for returning the questionnaire or as reminder to please complete and return it; and a second full mailing sent to all non-respondents. Mailings occurred in November/December 2017, following the end of the regular duck hunting season. From the sample of 2,700 waterfowl hunters, only one percent were eliminated because the respondent was deceased or mailings were undeliverable as addressed. Useable questionnaires were returned by 1,416 hunters for an overall response rate of 53 percent (Table 1).

Table 1. Survey responses by license type and residency.

	Sample Size	Number of Useable Returns	% Response Rate	% of Total Respondents
Total CPL	900	551	61%	39%
north zone	300	181	60%	13%
south zone	300	178	59%	13%
Mississippi	300	192	64%	14%
Total Stamp	1800	965	48%	61%
north zone	659	291	44%	21%
south zone	542	266	49%	19%
Mississippi	599	308	51%	22%
Total	2700	1416	53%	100%

Analysis

Prior to analysis, responses were weighted based on license database information on true gender and age distributions of waterfowl hunters in Wisconsin. Weights were calculated separately on a statewide level and regionally to reflect unique demographics within the north, south, and Mississippi River hunting zones of the state. Results reflect statewide hunter demographics and opinions unless otherwise specified. Zone-specific results were included where clear patterns emerged among zones and the region/zone of reference is clearly specified in these scenarios.

Roughly 14 percent of all respondents reported that they do not self-identify as a waterfowl hunter (Table 2). These non-hunters are mostly Conservation Patron License (CPL) holders and either do not hunt at all or may hunt migratory game birds other than ducks or geese. Besides a higher prevalence of non-waterfowl hunters, CPL holders also hunt fewer days and participated in the waterfowl hunting season with less frequency than stamp holders. However, we did not find significant differences on comparisons involving policy questions so we did not present comparisons of license type in our results. However, this report uses two distinct labels to identify non-hunters in analyses: “respondent” and “hunter.” Where we use the term “respondent,” we are indicating all respondents, regardless of hunter status or recent hunting participation. Any respondents that did not identify as waterfowl hunters were

directed to skip to the end of the questionnaire and simply enter their personal background information (See Section V) and thus are not included in the majority of results presented here. Alternatively, the term “hunter” indicates specifically those who self-identified as hunters and/or hunted either ducks or geese during the 2017 waterfowl season. Where relevant, hunters may be specifically identified as “goose hunters” or “duck hunters.”

Table 2. Comparison of hunting traits and participation among CPL and stamp holders in our sample.

Trait	CPL	Stamp	Total
Non-hunter	31%	3%	14%
Age	52 years	44 years	47 years
Years of experience	22 years	19 years	20 years
Waterfowl Hunted during 2012-2017?	80%	96%	92%
Duck hunted in 2017?	53%	84%	75%
Typical duck hunting effort	7.4 days	11 days	10 days
Goose hunted in 2017?	46%	63%	58%
Typical goose hunting effort	5.5 days	7.6 days	7 days

The Bureau of Environmental Analysis & Sustainability conducted all tasks associated with this survey. This included assembling the mailings, tracking the returned surveys, manually entering all data and performing necessary data cleaning tasks, and conducting all analysis using SPSS-PC version 19. The waterfowl management program assisted with assembling the mailings.

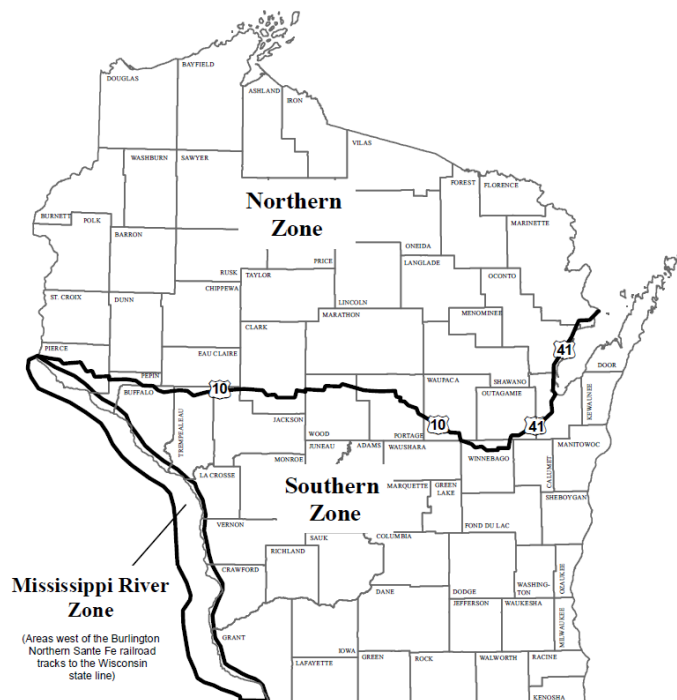


Figure 1. 2017 Duck hunting zones.

I. Past Waterfowl Hunting Experiences

Most waterfowl hunters are long-time participants averaging 20 years of experience. Over half (53%) have 20+ years of experience; 40 percent have 30+ years of experience and 30 percent have 40+ years of hunting experience (Table 3). Across all waterfowl hunters, there is a reasonably high level of commitment to the sport with 45 percent hunting each of the last six seasons (2012-2017) and three in five (62%) have hunted four of the last six years (Figure 2). These results also imply that participation varies from year to year for many hunters.

Table 3. Years of waterfowl hunting experience.

Years Waterfowl Hunting	
<5	17%
5-9	12%
10-19	19%
20-29	12%
30-39	10%
40+	30%
<i>Mean years = 20</i>	

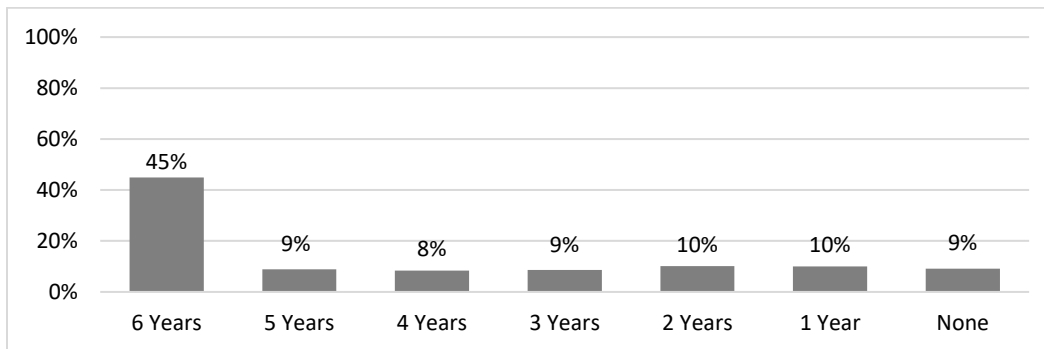


Figure 2. Hunting participation over the last six seasons (2012-2017). “None” response option indicates hunting prior to 2012 but not within the past six years.

Waterfowl hunters’ use of private and public land varied. Statewide, 40 percent of hunters utilized “private lands only” during recent hunting trips, 36 percent used “public lands only,” and the remaining quarter used a combination of private and public lands. Overall, three fifths of waterfowl hunters rely on public lands, either alone or in conjunction with private lands. In the Mississippi River zone, hunters were significantly and substantially more likely to rely exclusively on public lands for their waterfowl hunting (Table 4). This highlights the importance of local public lands for waterfowl hunting, especially in comparison to other game species, like white-tailed deer, that are hunted primarily (78%) on private lands (See Wisconsin DNR Firearm Deer Hunting Questionnaire 2016, Dhuey & Rees Lohr). For those that do use public lands for their waterfowl hunting, 177 unique public properties were listed as locations that hunters waterfowl hunted “most often.” The most commonly listed public properties were the Upper Mississippi River National Refuge, the Wisconsin River, unspecified or unnamed ‘local/county lands and creeks’, Green Bay, and Horicon Marsh (see Appendix B for the full list of named properties).

Table 4. Property types used during most recent waterfowl season(s).

	Statewide	North residents only	South residents only	Mississippi River residents only
Private lands only	40%	22 %	27%	11%
Public lands only	36%	35%	34%	58%
Both private and public lands	25%	43%	39%	31%

p<0.001

Hunters were asked to report how many days they hunt in a “typical year” as well as the number of ducks and geese they harvest in a “typical year.” Overall, waterfowl hunters report typically spending an average of 10 days duck hunting and 7 days goose hunting. Waterfowl hunters reported harvesting an average of 12.2 ducks and 4.0 geese during a typical season.

II. Duck Hunting in Wisconsin in 2017

Three-quarters (75%) of hunters participated in the 2017 duck hunting season. These hunters reported traveling an average of 33.8 miles, one-way, to reach their preferred duck hunting location(s) (Table 5). However, duck hunters living in the Mississippi River zone traveled significantly less ($p<0.001$) than residents of other regions at 18.2 miles, one-way, and were more likely to hunt 2 or more zones than residents of other areas. This is likely a reflection of both the comparatively small size of the Mississippi River zone and its proximity to public lands making for greater local hunting land accessibility. Overall, most hunters do not hunt outside the zone they reside in, only 26 percent hunt more than one zone, and hunters said they would only travel an average of 75 miles, one-way, to try a highly recommended hunting location (Table 5, Table 6).

Table 5. Average one-way miles hunters traveled to their hunting location(s) and miles they would be willing to travel for a recommended site.

	Statewide	North residents only	South residents only	Mississippi River residents only
Average miles traveled one-way	33.8 mi	29.0 mi	36.6 mi	18.2 mi
(Min-Max)	(0-275)	(0-250)	(0-230)	(0-275)
Average miles you are willing to travel	75.9 mi	64.2 mi	80.8 mi	60.8 mi
(Min-Max)	(0-550)	(0-300)	(0-400)	(0-550)

Table 6. Zone selection during the 2017 duck hunting season by residency.

	Statewide	North residents only	South residents only	Mississippi River residents only
<i>Did you hunt the...</i>				
...north zone?	41%	93%	29%	12%
...south zone?	72%	24%	87%	48%
...Mississippi River zone?	16%	10%	11%	81%
<i>Number of zones hunted</i>				
Hunted only 1 zone	74%	79%	74%	62%
Hunted 2+ zones	26%	21%	26%	38%

$p<0.001$

Waterfowl hunters spent an average of 11.5 days hunting during the 2017 season. Nine out of ten (92%) of hunters reported hunting at least one day during October, which was the most popular month; Two-thirds (67%) of hunters hunted during November, three in five (62%) hunted during September, and only 26 percent hunted during December. During the four months of hunting, 82 percent of hunters successfully harvested at least one duck; the average number of ducks harvested per hunter was 11.

Hunters utilizing public lands, alone or in conjunction with private lands, harvested significantly more ducks than those who exclusively waterfowl hunt on private lands (Figure 3). Proportionally, the ducks harvested in 2017 were 86 percent puddle ducks (e.g. mallards, teal, wood duck, etc.), 14 percent diving ducks (e.g. scaup, redheads, canvasbacks, etc.), and one percent sea ducks (e.g. long-tailed ducks, scoters, etc.).

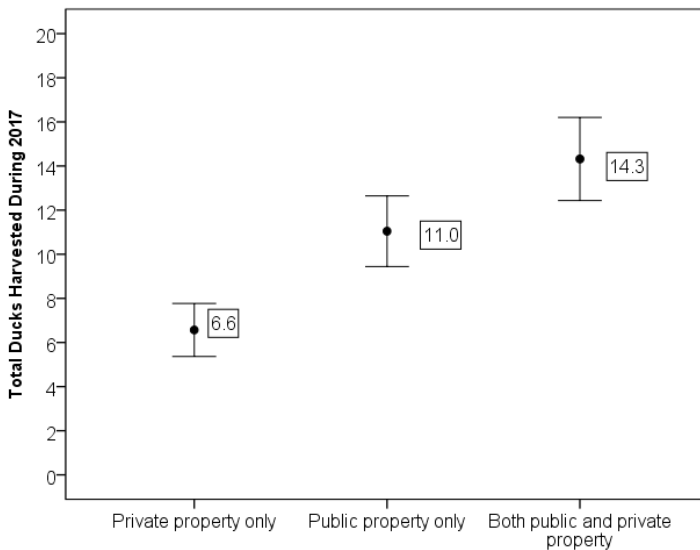


Figure 3. 2017 duck harvest success across property type use. ANOVA test and post-hoc analyses confirms significant difference between all groups at $p < 0.05$.

Prior to hunting, a majority (64%) of hunters or their companions engaged in scouting. Nearly 30 percent scouted three or more times prior to duck hunting, 16 percent scouted twice, 19 percent only scouted once, and the remaining one-third (36%) did not scout at all (Table 7). Younger hunters ranging in age from 18-29 were more likely to scout three or more times prior to hunting, while older hunters 60+ in age were most likely to not scout at all (Table 8). Interestingly, those who scouted three or more times also reported harvesting more than twice as many ducks during the 2017 season when compared to those that did not scout (Figure 4).

Table 7. Scouting behavior prior to duck hunting by the hunter or any hunting partners.

	Statewide	North residents only	South residents only	Mississippi River residents only
No scouting	36%	32%	37%	35%
1 trip	19%	14%	20%	18%
2 trips	16%	14%	16%	17%
3+ trips	29%	39%	26%	30%
Total	100%	100%	100%	100%

Table 8. Scouting behavior across age classes of duck hunters.

	Hunter age					Total
	18-29	30-39	40-49	50-59	60+	
No scouting	22%	38%	38%	42%	46%	36%
1 trip	18%	19%	17%	18%	22%	19%
2 trips	17%	15%	16%	19%	12%	16%
3+ trips	43%	28%	29%	22%	20%	29%
Total	100%	100%	100%	100%	100%	100%

p<0.001

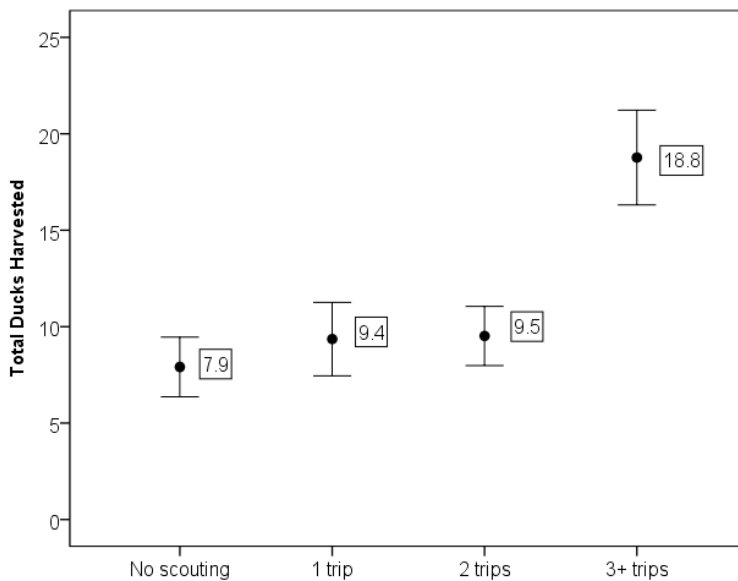


Figure 4. 2017 duck hunting harvest success across scouting behaviors. ANOVA test and post-hoc analyses confirm significant differences only between “3+ trips” group and other groups at $p < 0.001$. No significant difference among “No scouting,” “1 Trip,” and “2 Trips” groups.

In an effort to better understand scouting behavior and how that may relate to other hunting decisions as well as overall satisfaction, those who did not scout were asked to identify why they made that decision. Of the one-third of hunters who did not scout, 51 percent responded that they “had established spots on the land that they hunt,” 33 percent “have scouted where they hunt in the past,” and 26 percent simply “didn’t have time to scout” (Table 9). This information, combined with the increased harvest success of those who scout prior to hunting may be valuable in hunter outreach efforts. Hunters may be under the impression that scouting isn’t necessary if they have fixed hunting spots but harvest success clearly indicates that scouting may highlight changes to the land or changes in how waterfowl are using the landscape that hunters may be able to take advantage of during the season.

Table 9. Potential reasons why hunters did not scout. Hunters could check all options that applied to them. Only those who reported no scouting prior to hunting were asked to respond.

	Statewide	North residents only	South residents only	Mississippi River residents only
I have established spots on the land that I hunt	51%	57%	50%	44%
I have scouted where I hunt in past years	33%	32%	32%	38%
I didn't have time to scout	26%	23%	26%	31%
Decided to hunt at the last minute	8%	14%	7%	5%
Did not think it would improve my chances	7%	4%	8%	11%
Other reason	5%	8%	4%	6%
Just didn't think about it	3%	1%	3%	6%

Scouting also had an impact on harvest expectations for the upcoming season. Half (49%) of all hunters felt that the number of ducks they saw while scouting “greatly” or “moderately” influenced how many ducks they expected to see during the current season (Figure 5). This trend was linearly associated with how many times a hunter scouted (Table 10; $p < 0.001$). For example, when compared to those who scouted once, those who scouted extensively were more than three times as likely to think scouting “greatly” influenced their expectations for the 2017 season and 77 percent of those who scouted three or more times felt that it “greatly” or “moderately” influenced their expectations ($p < 0.001$).

Table 10. Scouting behavior and the influence of scouting on expectations for 2017 duck hunting season.

	2017 Scouting behavior				Total
	No scouting	1 trip	2 trips	3+ trips	
Scouting DID NOT influence my expectations	66%	25%	12%	9%	25%
Scouting SLIGHTLY influenced my expectations	14%	32%	28%	14%	21%
Scouting MODERATELY influenced my expectations	8%	30%	38%	35%	29%
Scouting GREATLY influenced my expectations	12%	14%	23%	42%	26%
Total	100%	100%	100%	100%	100%

Excludes hunters who felt the influence of scouting “did not apply” to them.

Hunter expectations were also “moderately” to “greatly” influenced by the number of ducks they saw last year while hunting (50%), and to a lesser extent, the number of ducks they shot last year (35%), reports from other hunters (34%), and reports from online or print resources (25%). Overall, when asked to compare the number of ducks they saw during the 2017 season with numbers in recent seasons and with their expectations, a plurality (40%) of hunters felt that 2017 duck numbers were “about the same as recent years” and “about the same as they expected” (Table 11). Further, responses to these two measures were closely aligned for individual hunters. That is, expectations seem to closely match hunter experiences of duck numbers during recent seasons.

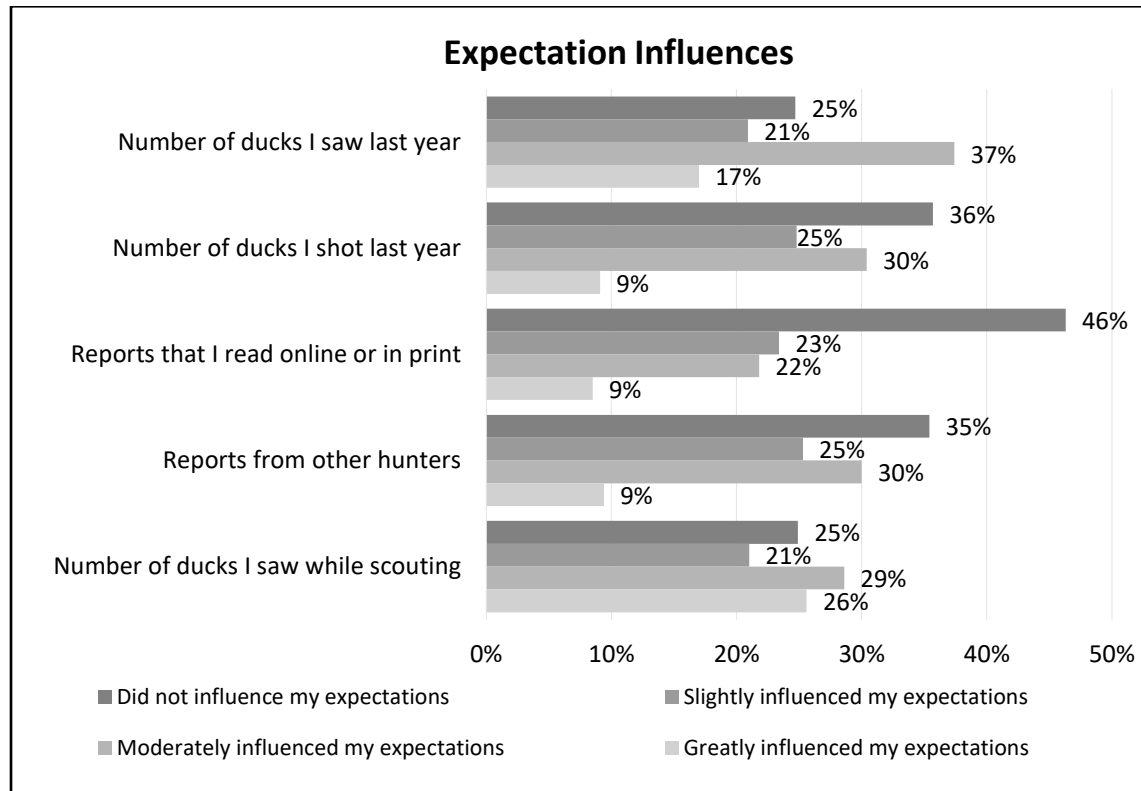


Figure 5. Influences on the number of ducks that hunters expected to see during the 2017 season.

Table 11. Comparison of number of ducks seen during 2017 season with hunter expectations and ducks seen during past years. For most hunters, expectations and duck numbers from past years align.

		Number of ducks you saw this year compared to the number you have seen in recent hunting seasons			Total
		More ducks than past years	About the same as past years	Fewer ducks than past years	
Number of ducks you saw this year compared to expectations	More ducks than I expected	87%	11%	2%	100%
	About the same as I expected	20%	67%	13%	100%
	Fewer than I expected	1%	28%	71%	100%
Total		24%	40%	36%	100%

Waterfowl hunters who participated in the 2017 duck hunting season were also asked to identify their overall satisfaction as well as satisfaction with a number of specific factors related to the hunt experience and hunting regulations. Most duck hunters were satisfied with the beauty of the areas they hunted (82%), access to areas they wanted to hunt (60%), and availability of hunting companions (58%) (Figure 6). Other measured satisfaction variables such as the number of birds harvested, shot opportunities, weather, and the behavior of other hunters varied more between those who were “very” or “fairly satisfied”, “neither satisfied nor dissatisfied”, and those who were “fairly” or “very dissatisfied”.

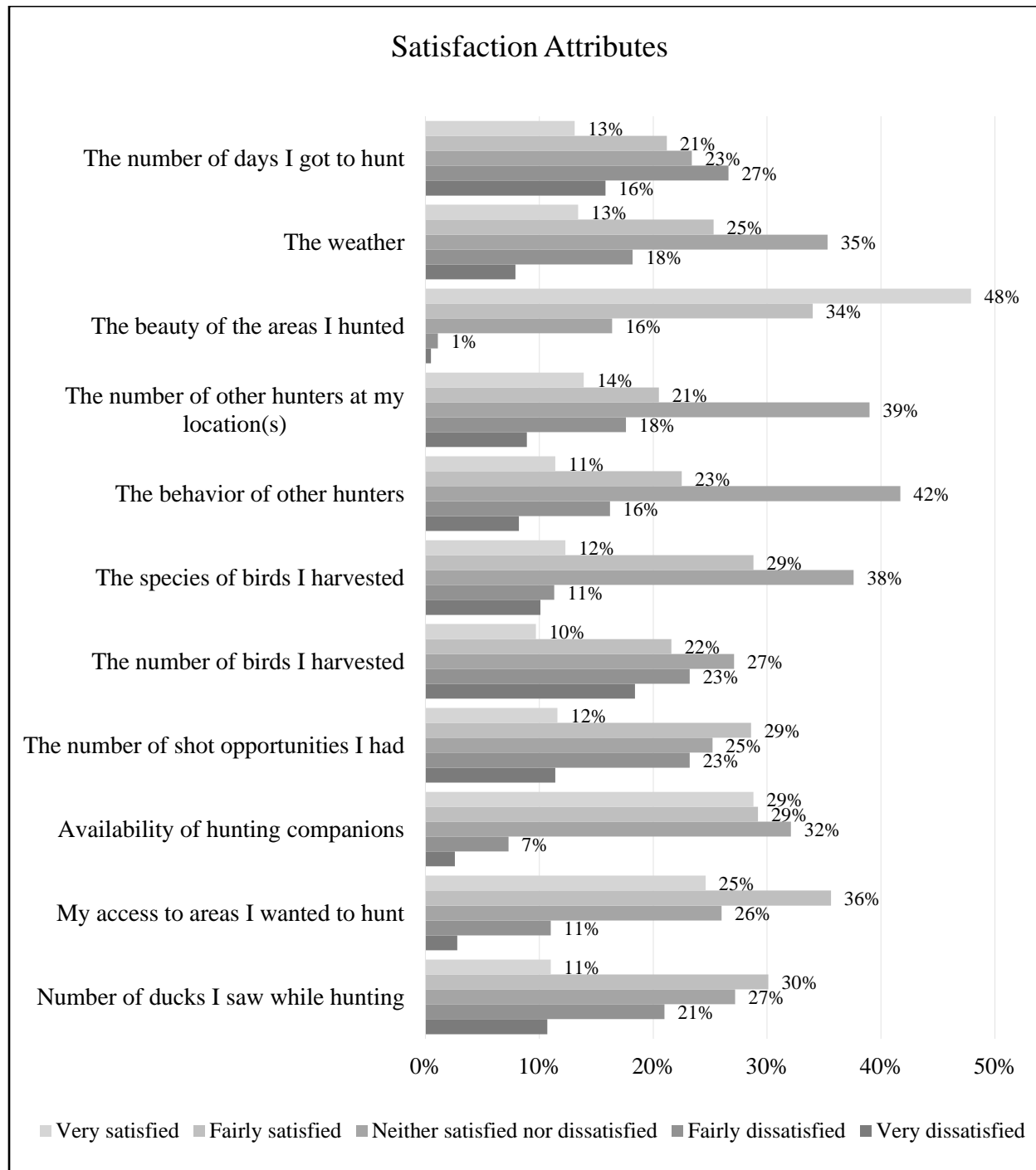


Figure 6. Duck hunter satisfaction with specific hunting attributes and experiences.

When all 2017 duck hunting experiences are taken together, 51 percent of hunters felt satisfied, 16 percent felt neither satisfied nor dissatisfied, and 33 percent felt some level of dissatisfaction. Satisfaction did not vary significantly across zones. Interestingly, those who responded feeling “satisfied” with their duck hunting experiences harvested significantly (76%) more ducks than those who felt “dissatisfied” (Figure 7). This suggests that harvest success may be tightly correlated with overall satisfaction.

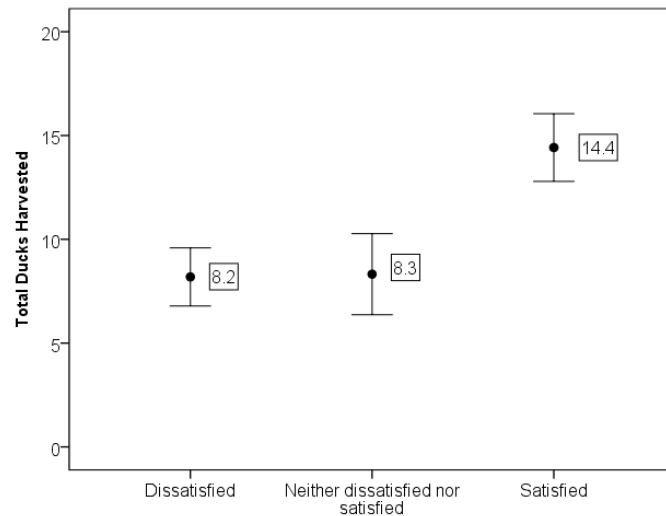


Figure 7. 2017 duck hunting harvest success across overall satisfaction with 2017 season. ANOVA tests and post-hoc analyses confirm significant differences only between “Satisfied” and other groups at $p < 0.001$. No significant difference between “Dissatisfied” and “Neither”.

A majority of duck hunters felt that the overall regulation framework did not influence their satisfaction with the 2017 season (Table 12). For specific regulations, 61 percent did not feel the six-duck daily bag limit influenced their satisfaction and 58 percent did not feel the hen limit influenced their satisfaction (Figure 8). However, the length of the season, the timing of opening day, and the opportunity to hunt teal before the regular season were somewhat more influential on overall satisfaction (Figure 8). Still, a plurality of duck hunters felt these variables had no influence one way or another on their satisfaction.

Table 12. Impact of overall regulation framework on satisfaction with duck hunting.

	Statewide	North residents only	South residents only	Mississippi River residents only
Strongly negative effect	5%	6%	5%	6%
Slightly negative effect	17%	17%	17%	25%
No influence	64%	65%	65%	53%
Slightly positive effect	9%	9%	8%	13%
Strongly positive effect	5%	3%	6%	3%

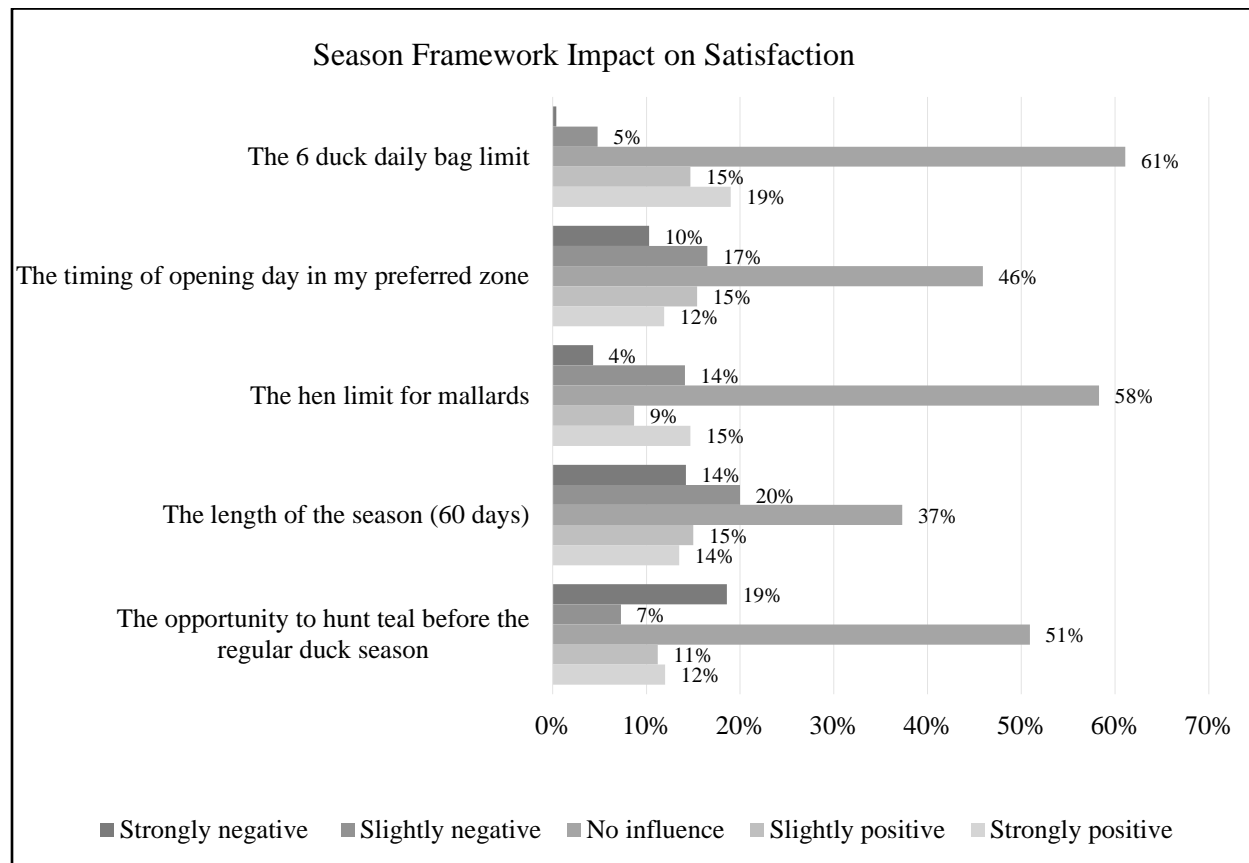


Figure 8. Impact of duck hunting season framework elements on overall duck hunting satisfaction.

III. Duck Hunting Regulations in Wisconsin

Regardless of whether hunters participated in the 2017 season, they were asked to provide their input on existing regulations and potential changes for future seasons. Due to changing climate and later freeze up dates, the U.S. Fish & Wildlife Service is exploring extending the duck season beyond 60 days and later into December (T. Finger, personal communication). This could offer more opportunities to hunt and a majority (59%) of waterfowl hunters felt they were “somewhat” or “very likely” to go duck hunting during this hypothetical extended part of the season (Table 13).

Table 13. Waterfowl hunter likelihood to hunt longer into December if the duck hunting season were extended longer than 60 days.

	Statewide	North residents only	South residents only	Mississippi River residents only
Very likely	40%	37%	40%	49%
Somewhat likely	19%	14%	21%	15%
Unsure	14%	16%	14%	14%
Somewhat unlikely	12%	14%	12%	8%
Very unlikely	15%	20%	14%	15%

Very few (14%) waterfowl hunters were opposed to a uniform, statewide opening day for the duck season and 42 percent supported such a decision. However, when asked about their preference for when opening day should fall within each zone, hunters differed in their opinions. For the north zone, 42 percent of all waterfowl hunters preferred an earlier (September 21-September 27) opening day (Table 14). For the south zone, 32 percent preferred opening day to fall on the following weekend (September 28 – October 4) (Table 15). Roughly half (48%) of waterfowl hunters felt that opening day for the Mississippi River zone “makes no difference to me / unsure,” however among hunters that live within the Mississippi River zone, a plurality (33%) preferred the Saturday nearest October 1 for opening day (Table 16).

Table 14. Statewide and within zone preference for north zone opening day.

north zone opener	Statewide	North residents only	South residents only	Mississippi River residents only
Saturday nearest Sept 24th (Sept 21 – Sept 27)	42%	44%	42%	36%
Saturday nearest Oct 1st (Sept 28 – Oct 4)	21%	26%	19%	20%
Saturday nearest Oct 8th (Oct 5 – Oct 11)	7%	10%	7%	5%
Later than the Saturday nearest Oct 8th	4%	3%	4%	3%
Makes no difference to me / Unsure	27%	18%	29%	36%

Table 15. Statewide and within zone preference for south zone opening day.

south zone opener	Statewide	North residents only	South residents only	Mississippi River residents only
Saturday nearest Sept 24th (Sept 21 – Sept 27)	17%	15%	18%	13%
Saturday nearest Oct 1st (Sept 28 – Oct 4)	32%	29%	32%	36%
Saturday nearest Oct 8th (Oct 5 – Oct 11)	16%	16%	16%	18%
Later than the Saturday nearest Oct 8 th	10%	5%	11%	8%
Makes no difference to me / Unsure	25%	36%	22%	25%

Table 16. Statewide and within zone preference for Mississippi River zone opening day.

Mississippi River zone opener	Statewide	North residents only	South residents only	Mississippi River residents only
Saturday nearest Sept 24th (Sept 21 – Sept 27)	12%	14%	11%	14%
Saturday nearest Oct 1st (Sept 28 – Oct 4)	19%	18%	17%	33%
Saturday nearest Oct 8th (Oct 5 – Oct 11)	12%	12%	11%	21%
Later than the Saturday nearest Oct 8th	10%	5%	11%	13%
Makes no difference to me / Unsure	48%	51%	50%	19%

Each zone also has the option of incorporating splits to extend the 60-day season later into the year and to provide hunting pressure relief for migrating birds. In each zone, substantial differences were found between statewide opinions and the opinions of those hunters who reside in the zone. For the north zone, 19 percent of north zone resident hunters wanted a split season (Table 17). For those who wanted a split season, most wanted it to be short in length (5 or 7 days) and during the first half of the season. Comparatively, in the south zone a much higher proportion of resident hunters (43%) wanted a split season (Table 18). For the south zone residents who did want a split, 51 percent would prefer a 5-day split and 83 percent would prefer the split occur during the first half of the season. Residents of the Mississippi River zone were also fairly divided in their opinions about incorporating a split with 49 percent supporting a split season (Table 19). For those who did want a split season, a plurality (38%) preferred a 7-day split and 80 percent preferred the split to occur during the first half of the season.

Table 17. North zone split season preference, split length, and closure timing by statewide and zone residency. Only those who responded “Yes” to (a) were directed to answer (b) and (c).

North zone split ^a	Statewide	North residents only	South residents only	Mississippi River residents only
Yes	26%	19%	28%	30%
No	74%	81%	72%	70%
Split length ^b				
5 days	44%	33%	48%	31%
7 days	32%	36%	31%	34%
9 days	9%	17%	7%	11%
More than 9 days	9%	9%	9%	9%
Unsure	7%	6%	6%	15%
Split closure during which half of season ^c				
First half	81%	69%	83%	86%
Second half	19%	31%	17%	14%

Table 18. South zone split season preference, split length, and closure timing by statewide and zone residency. Only those who responded “Yes” to (a) were directed to answer (b) and (c).

South zone split ^a	Statewide	North residents only	South residents only	Mississippi River residents only
Yes	40%	27%	43%	47%
No	60%	73%	57%	53%
Split length ^b				
5 days	47%	31%	51%	38%
7 days	22%	30%	20%	32%
9 days	11%	14%	11%	9%
More than 9 days	15%	16%	15%	17%
Unsure	5%	10%	3%	5%
Split closure during which half of season ^c				
First half	81%	68%	83%	83%
Second half	19%	32%	17%	17%

Table 19. Mississippi River zone split season preference, split length, and closure timing by statewide and zone residency. Only those who responded “Yes” to (a) were directed to answer (b) & (c).

Mississippi River zone split ^a	Statewide	North residents only	South residents only	Mississippi River residents only
Yes	31%	22%	33%	49%
No	69%	78%	67%	51%
Split length ^b				
5 days	34%	28%	36%	26%
7 days	31%	31%	30%	38%
9 days	10%	17%	9%	12%
More than 9 days	16%	12%	17%	19%
Unsure	9%	12%	9%	6%
Split closure during which half of season ^c				
First half	79%	72%	80%	80%
Second half	21%	28%	20%	20%

Finally among the duck hunting regulations, waterfowl hunters were asked about their participation in and support for the early teal season as well as their preferences for the season framework. Roughly 32 percent of waterfowl hunters have participated in the early teal season one or more times over the past four years. However, this number is considerably lower (ranging from 11% to 16%) within any given year, suggesting that participation may be inconsistent for individuals (Figure 9). One-fourth (27%) of waterfowl hunters felt they were “somewhat” or “very” likely to participate in the early teal season in the future, 36 percent felt that they were very unlikely, and 16 percent were slightly unlikely. The remainder of hunters were unsure about their future participation in the early teal season.

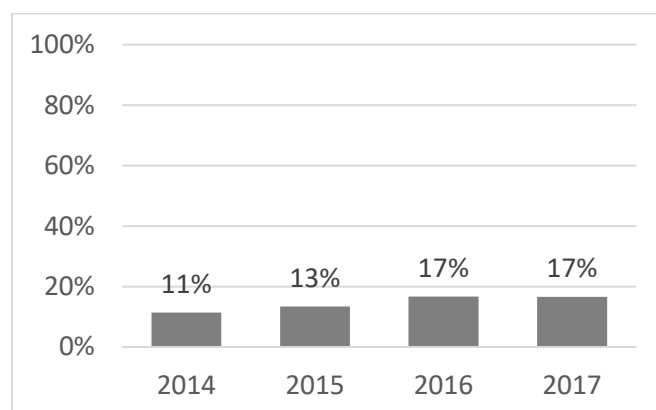


Figure 9. Participation rate in the early teal season among waterfowl hunters, 2014-2017.

Overall more waterfowl hunters (39%) supported the continuation of the early teal season than opposed (27%) it. Waterfowl hunters who had participated in the early teal season were more likely to support the continuation of the season, while those who had never hunted during the early teal season were most likely to be “unsure” about the continuation of the season in Wisconsin (Table 20). Regardless

of participation in or support for the early teal season, hunters were asked to provide feedback for teal season framework elements. Fifty-two percent of hunters had “no opinion” regarding when the early teal season should open and those that opposed or were unsure about the continuation of the season were more likely to select no opinion. Among those who supported the early teal season, hunters were divided on timing between the first and second week of September (Table 21). Those who supported the early teal season were also more likely (39%) to select a long (16 days) season compared with those who opposed the early teal season and mostly (78%) preferred the shortest season length of five days. A majority of those who supported the continuation of the teal season also preferred sunset as the close of shooting hours and two-fifths (43%) preferred a daily bag limit of six teal. Similar to other season framework elements, those who opposed the teal season differed from proponents in their opinions and were more likely to prefer a smaller daily bag limit and to maintain the current closing of shooting hours at 7pm (Table 21).

Table 20. Early teal season participation and support among waterfowl hunters.

Early teal season support or opposition	Participation in the early teal season		Total
	never hunted the early teal season	hunted early teal at least once	
Strongly support	8%	35%	15%
Support	21%	34%	24%
Unsure	43%	8%	34%
Oppose	14%	10%	13%
Strongly oppose	15%	13%	14%
Total	100%	100%	100%

Table 21. Teal season support and opinions on teal season framework.

	Support/opposition for teal season			Total
	Support	Unsure	Oppose	
Opening day of early teal season				
1st week of Sept	38%	16%	24%	27%
2nd week of Sept	32%	13%	13%	21%
No opinion	30%	71%	63%	52%
Total	100%	100%	100%	100%
Length of early teal season				
5 days	6%	24%	78%	31%
7 days	19%	20%	15%	18%
9 days	20%	24%	4%	17%
12 days	16%	11%	1%	11%
16 days	39%	21%	2%	24%
Total	100%	100%	100%	100%
Closing of shooting hours				
Sunset	63%	57%	38%	54%
7pm (current rule)	37%	43%	62%	46%
Total	100%	100%	100%	100%
Daily bag limit on teal				
6 birds	43%	23%	26%	32%
5 birds	19%	15%	4%	14%
4 birds	24%	26%	8%	21%
3 birds	14%	35%	63%	34%
Total	100%	100%	100%	100%

Lastly, given the support for and discussion surrounding a uniform opening day for the regular duck hunting season, waterfowl hunters were asked if they would support the early teal season in exchange for a uniform statewide opener on the Saturday nearest October 1st. Of those who opposed the continuation of the teal season, 30 percent would support it if such a tradeoff were available (Table 22). Another 36 percent of hunters who felt “unsure” about the continuation of the teal season would support it under such a tradeoff. Overall, this could potentially increase support for the early teal season from 39 percent to 58 percent.

Table 22. Support for the early teal season under current conditions and support for uniform opener/teal season tradeoff.

	Teal season support (current conditions)			Total
	Support	Unsure	Oppose	
Yes, I would support a uniform opener tradeoff	31%	36%	30%	32%
I support the teal season regardless of this change	38%	31%	2%	26%
No, I do not support a uniform opener tradeoff	31%	33%	69%	42%
Total	100%	100%	100%	100%

IV. Canada Goose Hunting in Wisconsin

Compared to duck hunting, slightly fewer (58%) hunters participated in the Canada goose hunting season in Wisconsin during 2017. However, because the duck and goose hunting seasons heavily overlap, anecdotal evidence suggests that many hunters goose hunt opportunistically while they hunt ducks and view goose hunting as a secondary goal. As such, it is likely that a smaller percentage of hunters set up with the intention to primarily hunt geese during the season. This is corroborated by past waterfowl hunter surveys that have found goose hunting to be less popular than duck hunting.

Among those who hunted Canada goose in 2017, hunters spent an average of 8.8 days hunting throughout the season. Participation was variable with 40 to 53 percent of goose hunters participating in each zone/time period and, like duck hunters, fewer hunters chose to hunt zones far away from where they live (Table 23). Hunters reported harvesting an average of 4.5 geese during the zones/time periods that they hunted (Table 24). Note that administration of this survey occurred in November and December, before the close of Canada goose hunting in the state. As such, average harvests may be slightly higher than hunters reported here.

Table 23. 2017 goose hunting participation by zone/time period.

	Statewide	North residents only	South residents only	Mississippi River residents only
Hunted early statewide season	51%	52%	51%	55%
Hunted exterior north zone	53%	65%	50%	35%
Hunted exterior south zone	51%	38%	54%	44%
Hunted Mississippi River subzone	41%	32%	43%	56%
Hunted Horicon zone	40%	33%	42%	41%

Table 24. Average geese harvested during 2017 season by goose zone/time period.

	Statewide	North residents only	South residents only	Mississippi River residents only
Early statewide season	3.1	3.8	2.8	3.2
Exterior north zone	2.4	4.1	1.1	1.8
Exterior south zone	3.5	2.8	3.6	1.6
Mississippi River subzone	0.8	0.5	0.3	1.6
Horicon zone	2.2	0	2.3	3.0
Mean Total Harvest	4.5	6.0	4.2	3.3

Just over half (53%) of goose hunters or their hunting partners scouted prior to goose hunting. Among those who did scout, the majority scouted extensively (3 or more times) (Table 25). Similar to duck hunter results, those who scouted prior to goose hunting also reported shooting more geese than those who do not scout (Figure 10). Equal proportions of goose hunters reported feeling dissatisfied (35%) and satisfied (35%). Those who responded that they felt satisfied harvested significantly more geese than both those hunters who felt dissatisfied as well as the average harvest among all goose hunters (Figure 24; Figure 11).

Table 25. Scouting behavior prior to any Canada goose hunting in 2017 by goose hunters or their hunting partners.

	Statewide	North residents only	South Residents only	Mississippi River residents only
No scouting	47%	31%	51%	47%
Yes, 1 trip	14%	15%	13%	15%
Yes, 2 trips	10%	15%	8%	10%
Yes, 3+ trips	30%	39%	28%	28%
Total	100%	100%	100%	100%

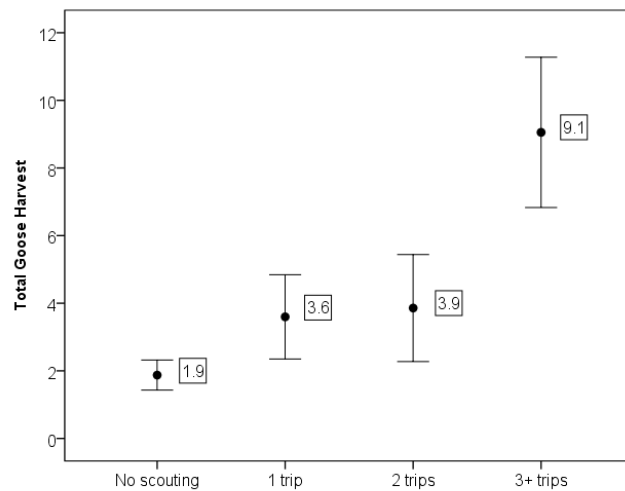


Figure 10. 2017 goose hunting harvest success across scouting behavior. ANOVA test and post-hoc analyses confirm significant differences between “3+ trips” and other categories at $p < 0.001$. No significant differences among other categories.

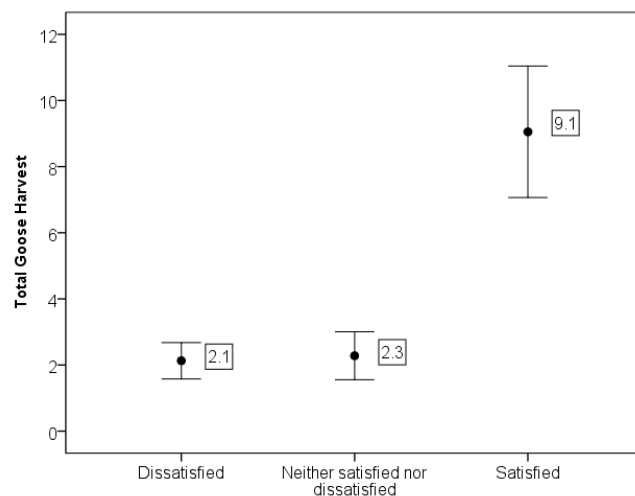


Figure 11. 2017 goose hunting harvest success across satisfaction levels. ANOVA test and post-hoc analyses confirm significant differences between “satisfied” group and other groups at $p < 0.001$. No significant difference between other groups.

Lastly, goose hunters were provided information on the decrease in permit holders and Canada goose harvests from within the Horicon zone since 1999. Because of these trends, the Wisconsin DNR is considering elimination of the Horicon zone and making the entire state a single exterior zone. This would simplify Canada goose management and provide hunters more flexibility to hunt throughout the state without special permits. Sixty-eight percent of all goose hunters supported or strongly supported this change and only six percent opposed eliminating the Horicon zone (Table 26). While support for such a decision differed slightly within each zone, the majority of goose hunters in each region support the decision.

Table 26. Support or opposition for eliminating the Horicon Canada goose hunting zone and creating a single statewide exterior zone.

	Statewide	North residents only	South residents only	Mississippi River residents only
Strongly support	36%	25%	39%	35%
Support	32%	28%	33%	28%
Unsure	27%	43%	22%	34%
Oppose	3%	3%	3%	2%
Strongly oppose	3%	2%	3%	2%
Total	100%	100%	100%	100%

V. Waterfowl Hunter Background

Nearly all (95%) respondents to this survey were male and averaged 47 years old; half (48%) are 50 or older (Table 27). Statewide, most respondents (54%) resided in urban/suburban areas while 46 percent lived in rural locations. However, within the North zone and the Mississippi River zone respondents were markedly more rural (70% and 62%, respectively) (Table 28).

Table 27. Ages of respondents.

Hunter Age	
18-29	19%
30-39	19%
40-49	15%
50-59	24%
60+	23%
<i>Mean age = 47</i>	

Table 28. Urban and rural residency of respondents.

	Statewide	North residents only	South Residents only	Mississippi River residents only
Urban/suburban	46%	30%	52%	38%
Rural	54%	70%	49%	62%

The household income of respondents varied greatly but the majority are middle class. Three in five (59%) of respondents fall within \$25,000-\$99,999 household income; one-third reported their household income as \$100,000 or greater (Figure 12). No significant or substantive patterns were found with household income and waterfowl hunting commitment, land type used, or harvests. This suggests that income does not act as a barrier for waterfowl hunting participation or enjoyment in the state of Wisconsin.

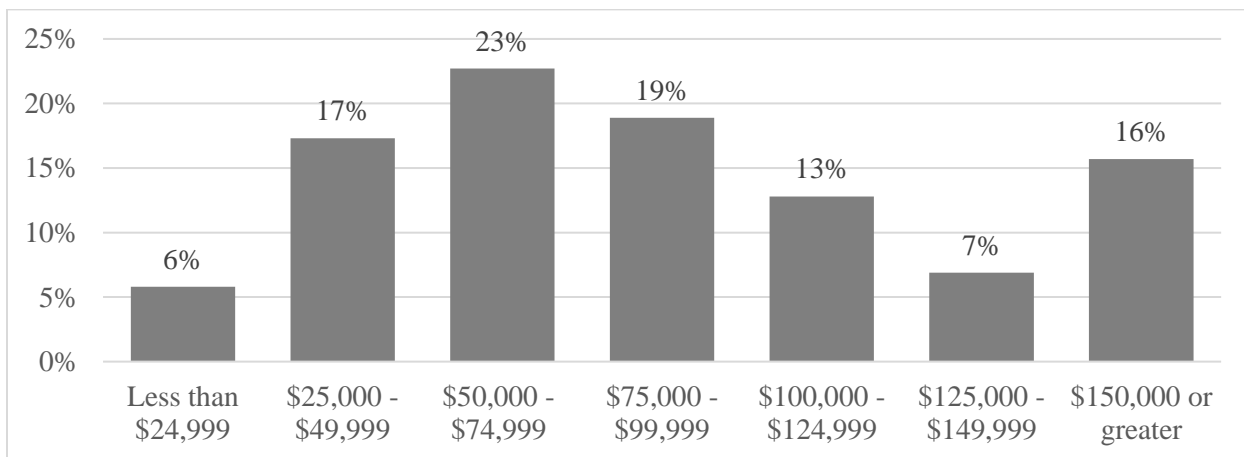


Figure 12. Average household income of respondents.

Respondents reported getting information about waterfowl hunting in Wisconsin from a range of resources, the most common of which was the Wisconsin DNR website (59%), the Wisconsin DNR regulations booklet (50%), and hunting magazines (47%) (Table 29). A large proportion (40%) of respondents 60 and older rely solely on paper resources such as hunting magazines and newspaper articles; 14 percent of respondents 18-29 years old relied solely on paper resources (Table 30). One-quarter of respondents 18-39 years old used only electronic resources such as the DNR website, Facebook, emails, and mobile apps for their waterfowl hunting information; 11 percent of respondents 60 and older used electronic resources alone. This may be relevant for targeted delivery of waterfowl hunting information in Wisconsin. However, a majority (77%) of all age groups use some type of electronic resource, most notably the DNR website (Table 29, Table 30).

Table 29. Resources used to obtain waterfowl hunting information.

	Hunter Age					Total
	18-29	30-39	40-49	50-59	60+	
DNR website*	72%	73%	65%	52%	41%	59%
DNR regulations booklet	49%	55%	49%	48%	50%	50%
Hunting magazines*	41%	45%	45%	54%	47%	47%
DNR Facebook*	40%	34%	25%	20%	16%	26%
Newspaper articles*	14%	20%	25%	25%	33%	24%
Emails from DNR*	22%	19%	16%	17%	12%	17%
DNR apps on mobile devices*	20%	19%	15%	13%	7%	14%
DNR twitter	10%	10%	9%	11%	10%	10%

* = significant pattern across age $p < 0.05$

Table 30. Information resource categories by age .

	Hunter Age					All
	18-29	30-39	40-49	50-59	60+	
Paper resources only	14%	15%	19%	28%	40%	24%
Electronic resources only	24%	26%	12%	12%	11%	17%
Both electronic and paper resources	63%	59%	69%	61%	50%	60%
Total	100%	100%	100%	100%	100%	100%

$p < 0.001$

The majority (64%) of respondents are not members of any waterfowl hunting organizations. However, among those that are active members of an organization, 89 percent are involved with Ducks Unlimited, 17 percent are members of Wisconsin Waterfowl Association, 19 percent are members of Delta Waterfowl and four percent are members of Wisconsin Wildlife Federation.

Appendix A: Additional Analyses

Zone opening day preference and split season structure—statewide and within zone

Table 1. Statewide opinions regarding north zone opening day and split preference.

<i>statewide</i>			Should the North zone have a split?		Total
			Yes	No	
Opening day: North zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	81 20%	320 80%	401 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	72 37%	123 63%	195 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	21 30%	48 70%	69 100%
	Later than the Saturday nearest Oct 8	Count %	24 65%	13 35%	37 100%
	Makes no difference to me / Unsure	Count %	45 19%	195 81%	240 100%
	Total	Count %	243 26%	699 74%	942 100%

Table 2. North zone only opinions regarding north zone opening day and split preference.

<i>North zone residents only</i>			Should the North zone have a split?		Total
			Yes	No	
Opening day: North zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	21 12%	154 88%	175 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	23 23%	77 77%	100 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	13 35%	24 65%	37 100%
	Later than the Saturday nearest Oct 8	Count %	6 67%	3 33%	9 100%
	Makes no difference to me / Unsure	Count %	7 11%	59 89%	66 100%
	Total	Count %	70 18%	317 82%	387 100%

Table 3. Statewide opinions regarding north zone opening day and split closure length.

<i>statewide</i>			How many days should the closure be in the North zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: North zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	38 48%	32 41%	5 6%	0 0%	4 5%	79 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	33 47%	21 30%	6 9%	5 7%	6 9%	71 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	4 20%	7 35%	5 25%	4 20%	0 0%	20 100%
	Later than the Saturday nearest Oct 8	Count %	3 13%	6 25%	5 21%	10 42%	0 0%	24 100%
	Makes no difference to me / Unsure	Count %	18 1%	17 39%	0 0%	4 9%	5 11%	44 100%
	Total	Count %	96 40%	83 35%	21 9%	23 10%	15 6%	238 100%

Table 4. North zone only opinions regarding north zone opening day and split closure length.

<i>North zone residents only</i>			How many days should the closure be in the North zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: North zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	6 30%	8 40%	4 20%	0 0%	2 10%	20 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	7 35%	10 50%	2 10%	0 0%	1 5%	20 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	3 25%	3 25%	4 33%	2 17%	0 0%	12 100%
	Later than the Saturday nearest Oct 8	Count %	0 0%	1 17%	2 33%	3 50%	0 0%	6 100%
	Makes no difference to me / Unsure	Count %	5 71%	1 14%	0 0%	0 0%	1 14%	7 100%
	Total	Count %	21 32%	23 35%	12 19%	5 8%	4 6%	65 100%

Note: Only those who responded “yes” to wanting a split were directed to answer questions about split details. As a result, small sample sizes limit statistical power here. Using row and column totals would give a better idea of majority opinion.

Table 5. Statewide opinions regarding south zone opening day and split preference.

<i>Statewide</i>			Should the South zone have a split?		Total
			Yes	No	
Opening day: South zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	37 21%	142 79%	179 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	179 54%	150 46%	329 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	107 64%	60 36%	167 100%
	Later than the Saturday nearest Oct 8	Count %	64 62%	40 39%	104 100%
	Makes no difference to me / Unsure	Count %	47 20%	192 80%	239 100%
	Total	Count %	434 43%	584 57%	1018 100%

Table 6. South zone opinions regarding south zone opening day and split preference.

<i>South zone residents only</i>			Should the South zone have a split?		Total
			Yes	No	
Opening day: South zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	14 22%	51 79%	65 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	67 59%	47 41%	114 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	38 66%	20 35%	58 100%
	Later than the Saturday nearest Oct 8	Count %	26 63%	15 37%	41 100%
	Makes no difference to me / Unsure	Count %	14 19%	59 81%	73 100%
	Total	Count %	159 45%	192 55%	351 100%

Table 7. Statewide opinions regarding south zone opening day and split closure length.

<i>Statewide</i>			How many days should the closure be in the South zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: South zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	17 50%	9 27%	0 0%	4 12%	4 12%	34 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	103 59%	43 25%	13 7%	12 7%	4 2%	175 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	46 41%	21 19%	18 16%	18 16%	8 7%	111 100%
	Later than the Saturday nearest Oct 8	Count %	22 34%	11 17%	9 14%	23 35%	0 0%	65 100%
	Makes no difference to me / Unsure	Count %	14 30%	11 24%	8 17%	8 17%	6 13%	47 100%
	Total	Count %	202 47%	95 22%	48 11%	65 15%	22 5%	432 100%

Table 8. South zone opinions regarding south zone opening day and split closure length.

<i>South zone residents only</i>			How many days should the closure be in the South zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: South zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	6 50%	4 33%	0 0%	1 8%	1 8%	12 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	41 62%	14 21%	5 8%	5 7%	1 2%	66 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	17 44%	6 15%	6 15%	7 18%	3 8%	39 100%
	Later than the Saturday nearest Oct 8	Count %	10 39%	4 15%	4 15%	8 31%	0 0%	26 100%
	Makes no difference to me / Unsure	Count %	5 36%	2 14%	3 21%	3 21%	1 7%	14 100%
	Total	Count %	79 50%	30 19%	18 12%	24 15%	6 4%	157 100%

Note: Only those who responded “yes” to wanting a split were directed to answer questions about split details. As a result, small sample sizes limit statistical power here. Using row and column totals would give a better idea of majority opinion.

Table 9. Statewide opinions regarding Mississippi River zone opening day and split preference.

<i>Statewide</i>			Should the MR zone have a split?		Total
			Yes	No	
Opening day: MR zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	14 14%	86 86%	100 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	71 44%	89 56%	160 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	56 54%	48 46%	104 100%
	Later than the Saturday nearest Oct 8	Count %	56 67%	28 33%	84 100%
	Makes no difference to me / Unsure	Count %	79 21%	299 79%	378 100%
	Total	Count %	276 33%	550 66%	826 100%

Table 10. Mississippi River zone opinions regarding Mississippi River zone opening day and split preference.

<i>Mississippi River zone residents only</i>			Should the MR zone have a split?		Total
			Yes	No	
Opening day: MR zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	10 22%	36 78%	46 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	65 60%	44 40%	109 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	47 67%	23 33%	70 100%
	Later than the Saturday nearest Oct 8	Count %	28 65%	15 35%	43 100%
	Makes no difference to me / Unsure	Count %	19 31%	43 69%	62 100%
	Total	Count %	169 51%	161 49%	330 100%

Table 11. Statewide opinions regarding Mississippi River zone opening day and split closure length.

<i>Statewide</i>			How many days should the closure be in the MR zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: MR zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	6 43%	3 21%	1 7%	3 21%	1 7%	14 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	30 46%	23 35%	6 9%	4 6%	3 5%	66 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	15 27%	25 45%	10 18%	6 11%	0 0%	56 100%
	Later than the Saturday nearest Oct 8	Count %	7 13%	16 29%	9 16%	24 43%	0 0%	56 100%
	Makes no difference to me / Unsure	Count %	29 35%	26 32%	4 5%	7 9%	16 20%	82 100%
	Total	Count %	87 32%	93 34%	30 11%	44 16%	20 7%	274 100%

Table 12. Mississippi River zone opinions regarding Mississippi River zone opening day and split closure length.

<i>Mississippi River zone residents only</i>			How many days should the closure be in the MR zone?					Total
			5 days (M-F)	7 days	9 days	More than 9 days	Unsure	
Opening day: MR zone	Saturday nearest Sep 24 (Sep 21-27)	Count %	5 50%	1 10%	1 10%	2 20%	1 10%	10 100%
	Saturday nearest Oct 1 (Sep 28 - Oct 4)	Count %	21 32%	33 51%	3 5%	6 9%	2 3%	65 100%
	Saturday nearest Oct 8 (Oct 5 -11)	Count %	11 23%	20 42%	10 21%	7 15%	0 0%	48 100%
	Later than the Saturday nearest Oct 8	Count %	5 19%	4 15%	3 11%	14 52%	1 4%	27 100%
	Makes no difference to me / Unsure	Count %	3 16%	6 32%	3 16%	2 11%	5 26%	19 100%
	Total	Count %	45 26%	64 38%	20 12%	31 18%	9 5%	169 100%

Note: Only those who responded “yes” to wanting a split were directed to answer questions about split details. As a result, small sample sizes limit statistical power here. Using row and column totals would give a better idea of majority opinion.

Appendix B: Public Properties Used by Hunters

Many waterfowl hunters included specific areas within a larger property (e.g. Mississippi River “backwaters”, “channels”, pool numbers etc.) for their most often hunted property. Such responses were combined into one category for that property. Any percentages presented here are calculated based on statewide weighted responses and only those who responded that they hunted public properties during their “most recent waterfowl hunting season(s) in Wisconsin” were directed to write in the property they hunted “most often.”

Top 10 listed public properties:

Property	Percent of public property using respondents
1. Mississippi River	13%
2. Wisconsin River	11%
3. “local public lands and waterways”	7%
4. Green Bay	4%
4. Horicon Marsh	4%
6. Wolf River	3%
6. Mead Wildlife Area	3%
8. Collins Marsh	2%
8. Poygan Marsh	2%
8. Mud Lake	2%

Other public properties listed by waterfowl hunters:

Allouez Bay	Chippewa county forest	Flambeau River State Forest
Atkins Lake	Chippewa River	Fountain City
Avon Bottoms Wildlife Area	Clam Lake	Fox River
Barks Lake	Clam River	French Creek
Bass Lake	Clay Lake	Garnet Lake
Beaver Dam Lake	Coon Creek	Germania Marsh
Bern Wildlife Area	Cranberry Lake	Glacial Habitat Restoration Areas
Big Eau Pleine River	Crawfish River	Goodyear Lake
Big Marsh	Crex Meadows	Gordon Flowage
Big McKenzie Lake	Cylon Marsh	Grand River Marsh
Big Muskego Lake	Decorah Lake	Grass Lake WPA
Birch Island Lake	Dell Creek Wildlife Area	Green Lake
Black River	Dike 17 Wildlife Area	Jackson Marsh
Brillion Marsh	Dog Lake	Jefferson Marsh
Brule River State Forest	Eau Claire River	Johnson Creek
Buffalo Lake	Eldorado Marsh	K and S game farm
Buffalo River	Elk Lake	Kakagon Slough
Caldron Falls	Embarrass River	Kettle Moraine
Chequamegon Bay	Enterprise Lake	Kewaunee Marsh
Chequamegon National Forest	Ericson Creek Wetland SNA	Killsnake Wildlife Area
Cherokee Marsh	Fish Lake	La Crosse River

Lake Butte Des Morts	Nevin Springs Wildlife Area	St. Louis River
Lake DuBay	Northern Highland American	Steve Creek
Lake Eau Claire	Legion State Forest	Straight Lake Park
Lake Emily	Northern Highland-American	Sugar River
Lake Koshgong	Legion State Forest	Taylor County Forest Ponds
Lake Lucerne	Oconomowoc River	Theresa Marsh
Lake Michigan	Oconto River	Three Lakes
Lake Nokomis	Outagamie Wildlife Area	Thunder Lake
Lake Onalaska	Pelican Lake	Tichigan Wildlife Area
Lake Pepin	Pensaukee Lake	Tiffany Wildlife Area
Lake Pesobic	Pershing Wildlife refuge	Tom Lawin Wildlife Area
Lake Petenwell	Peshtigo Wildlife Area	Tomahawk River
Lake Puckaway	Pine Island Wildlife Area	Totapatic Flowage
Lake Superior	Prairie River	Trempealeau
Lake Waubesa	Prince's Point Wildlife Area	Turtle Flambeau Flowage
Lake Wausau	Quincy Bluff and Wetlands SNA	Twin Lakes
Lake Winnebago	Rainbow Flowage	Unspecified WPA
Lea Flowage	Rat River Wildlife Area	Van Loon Wildlife Area
Little Black Lake	Red Cedar River	Vernon Marsh
Lodi Marsh	Red Lake	Wavarino
Lower Gresham Lake	Rice Lake	Weaver bottoms
Mack Wildlife Area	Rock River	Welch Lake
Maiden Rock	Rose Lee USFW Area	Weso Flowage
Manitowoc River	Rush Creek	White Lake
McMillan Marsh Wildlife Area	Rush Lake	White River Marsh
Meadow Valley Wildlife Area	Rush River	Whitman Wildlife Area
Miller Dam	Sailor Lake Flowage	Wild Rice Flowage
Milwaukee River	Shakey Lake	Williams Lake
Mishonagan Creek SNA	Shawano Lake	Willow Flowage
Muddy Creek Wildlife Area	Sheboygan Marsh	Willow Mill Pond
Mukwa Wildlife Area	Shoveler's Sink	Winnebago System
Namekagon River	Spooner Lake	Woodboro Woods Wildlife Area
Navarino Wildlife Area	Spring Creek Wildlife Area	Yahara River
Nelson-Trevino Bottoms	Spring Lake	Yellow River
Nemahbin Lake	St. Croix River/Watershed	Zelowski Marsh

Appendix C: Full Questionnaire and Responses

Section 1: Your PAST Waterfowl Hunting Experiences

This first section asks about your waterfowl hunting experiences in Wisconsin. Questions that refer to “waterfowl” mean geese and ducks, including coots and mergansers.

1. During which of the following years did you do any duck or Canada goose hunting in Wisconsin? (Note - the series begins with the 2016 season; we will ask you about 2017 in a later question.) **(check all that apply)**

	Statewide	North	South	Mississippi
2016	65.5	63.8	66.1	64.4
2015	60.7	60.7	60.4	63.6
2014	56.1	57.1	55.4	61.1
2013	52.4	52.4	52.0	56.0
2012	51.0	50.4	50.9	53.5
None of these years but prior to 2012	10.7	11.1	10.5	10.6
I'm not a waterfowl hunter*	13.5	13.3	13.2	16.8

* respondents selecting this option were directed to skip ahead to section 5

2. For how many years have you hunted waterfowl? I've hunted waterfowl for _____ year(s).

	Statewide	North	South	Mississippi
Mean # years	19.6 years	20.5 years	19.1 years	22.1 years
Min-Max	0-75	1-72	1-75	0-70

3. During your most recent waterfowl hunting season(s) in Wisconsin, whenever that was, what type of land or water did you hunt? **(check one)**

	Statewide	North	South	Mississippi
Private lands only	39.5	22.3	27.0	10.8
Public lands only	35.6	34.6	33.8	58.0
Both private and public lands	24.9	43.1	39.2	31.3

4. Which public property do you waterfowl hunt most often (e.g., Mead Wildlife Area, Buffalo Lake, Wisconsin River sloughs, etc.)? _____

NOTE: There were over 198 unique responses to this AFTER merging pools/ sloughs/ backwaters/ flowage specifications for larger rivers and watersheds. Dozens more respondents simply put “local ponds and creeks” or “local waterways”. The top listed property below only represents roughly 10-15% of all respondents.

	Statewide	North	South	Mississippi
1st	Wisconsin River	Wisconsin River	Wisconsin River	Mississippi River
2nd	Mississippi River	Mead Wildlife Area	Horicon Marsh	Wisconsin River
3rd	Horicon Marsh	Crex Meadows	Green Bay	Lake Onalaska

5. **In a typical year**, about how many ducks and geese do you usually harvest? Please just provide your best estimate by writing a single number rather than a range.

	Statewide	North	South	Mississippi
Mean # ducks harvested during typical year	12.2 ducks	12.7 ducks	11.3 ducks	19.5 ducks
Min-Max	0-300	0-150	0-125	0-300

	Statewide	North	South	Mississippi
Mean # geese harvested during typical year	4.0 geese	5.0 geese	3.8 geese	3.3 geese
Min-Max	0-100	0-75	0-55	0-100

6. **In a typical year**, about how many days do you hunt? Please just provide your best estimate by writing a single number rather than a range of days.

	Statewide	North	South	Mississippi
Mean # days duck hunting during typical year	10.0 days	10.2 days	9.6 days	13.1 days
Min-Max	0-70	0-60	0-45	0-70

	Statewide	North	South	Mississippi
Mean # days goose hunting during typical year	7.0 days	7.4 days	6.8 days	7.8 days
Min-Max	0-100	0-60	0-45	0-100

Section 2: Duck Hunting in Wisconsin in 2017

This section looks specifically at duck hunting in Wisconsin.

1. Did you do any duck hunting in Wisconsin in 2017?

	Statewide	North	South	Mississippi
Yes	74.9	72.5	75.4	75.8
No*	25.1	27.5	24.6	24.2

*If respondents entered no, they were directed to skip ahead to section

2a. Did you or a hunting partner do any scouting prior to duck hunting? **(check one)**

	Statewide	North	South	Mississippi
No	36.1	32.2	37.4	35.0
Yes, 1 trip	18.8	14.2	20.1	18.0
Yes, 2 trips	15.9	14.2	16.3	17.3
Yes, 3+ trips	29.2	39.3	26.3	29.7

2b. If you did not scout this year, please indicate why from the following list of options.

(Please check all that apply)

	Statewide	North	South	Mississippi
I didn't have time to scout	25.8	23.2	26.1	31.3
I have scouted where I hunt in past years	32.7	31.6	32.4	38.0
I have established spots on the land I hunt	50.9	57.4	49.5	44.0
Did not think it would improve my chances	7.3	4.2	8.1	11.0
Just didn't think about it	2.8	1.1	2.7	6.0
Decided to hunt at the last minute	7.9	13.7	7.2	5.0
Other reason	4.8	8.4	3.6	6.0

3. In which zone(s) did you hunt ducks? **(See map on back cover.) (check all that apply)**

	Statewide	North	South	Mississippi
North	41.0	92.6	29.0	12.4
South	71.5	23.9	87.3	47.5
Mississippi	15.6	9.8	11.0	81.3

4. Think about all the locations in Wisconsin where you duck hunted in 2017. On average, about how many miles did you travel, one-way, to reach your duck hunting locations?

	Statewide	North	South	Mississippi
Average miles traveled one-way	33.8 mi	29.0 mi	36.6 mi	18.2 mi
Min-Max	0-275	0-250	0-230	0-275

5. About how far would you be willing to travel, one-way, in Wisconsin to try a new duck hunting location that was recommended by another hunter? Just give us your best estimate.

	Statewide	North	South	Mississippi
Average miles willing to travel one-way	77.2 mi	70.2 mi	80.7 mi	60.8 mi
Min-Max	0-1500	0-1500	0-400	0-550

6. How many days did you go duck hunting in Wisconsin in 2017? For each month, please write the number of days you hunted. If you did not hunt in a particular month, write a zero.

	Statewide	North	South	Mississippi
September	2.1 days	3.2 days	1.9 days	1.8 days
October	5.6 days	6.2 days	5.5 days	5.7 days
November	3.5 days	3.2 days	3.5 days	5.6 days
December	0.6 days	0.3 days	0.6 days	1.0 days

* averages presented here include zero values

7. How many total ducks did you harvest in Wisconsin during 2017? _____ ducks
(If none, ENTER all zeros)

	Statewide	North	South	Mississippi
Mean Total ducks	11.4 ducks	12.1 ducks	10.8 ducks	16.8 ducks
Min-Max	0-300	0-150	0-125	0-300

- a. How many of these were puddle ducks (e.g., mallards, teal, wood duck, etc.)

	Statewide	North	South	Mississippi
Mean puddle ducks	9.4 ducks	9.6 ducks	8.8 ducks	15.1 ducks
Min-Max	0-275	0-130	0-125	0-275
Average proportion of total harvested	85.5%	84%	85.4%	90.9%

- b. How many of these were diving ducks (e.g., scaup, redheads, canvasback, etc.)

	Statewide	North	South	Mississippi
Mean diving ducks	1.9 ducks	2.4 ducks	1.8 ducks	1.9 ducks
Min-Max	0-55	0-55	0-30	0-25
Average proportion of total harvested	13.4%	15%	13.5%	8.6%

c. How many of these were sea ducks (e.g., long-tailed ducks, scoters, etc.)

	Statewide	North	South	Mississippi
Mean sea ducks	0.15 ducks	0.1 ducks	0.2 ducks	.02 ducks
Min-Max	0-20	0-10	0-20	0-2
Average proportion of total harvested	1%	0.9%	1.1%	0.2%

8. How did the number of ducks you saw this year compare to the number you have seen in recent hunting seasons? (**check one**)

	Statewide	North	South	Mississippi
A lot more ducks this year	6.7	6.8	6.6	7.8
Somewhat more ducks this year	17.7	16.9	18.3	14.5
About the same as past years	39.9	38.9	40.3	37.9
Somewhat fewer ducks this year	21.6	19.9	22.1	21.6
A lot fewer ducks this year	14.1	17.6	12.8	18.1

9. How did the number of ducks you saw this year compare to the number you **expected** to see? (**check one**)

	Statewide	North	South	Mississippi
A lot more than I expected	5.9	5.9	6.1	5.0
Somewhat more than I expected	13.0	14.1	12.5	12.8
About the same as I expected	38.1	38.5	38.0	37.9
Somewhat fewer than I expected	28.4	23.7	30.2	24.1
A lot fewer than I expected	14.6	17.8	13.2	20.2

10. To what extent did the following factors influence the number of ducks you expected to see?

(circle one for each item)

a. The number of ducks i saw last year hunting...

	Statewide	North	South	Mississippi
Did not influence my expectations	22.7	23.2	22.5	24.6
Slightly influenced my expectations	19.2	21.5	18.1	23.9
Moderately influenced my expectations	34.5	28.5	36.5	28.2
Greatly influenced my expectations	15.6	16.1	16.0	11.4
Does not apply to me	8.0	10.7	6.8	11.8

b. The number of ducks I shot last year...

	Statewide	North	South	Mississippi
Did not influence my expectations	31.7	33.4	30.7	36.6
Slightly influenced my expectations	22.0	21.7	22.2	19.4
Moderately influenced my expectations	27.0	23.4	28.7	21.1
Greatly influenced my expectations	8.1	9.0	7.5	9.7
Does not apply to me	11.2	12.4	10.9	13.3

c. Reports that I read online or in print...

	Statewide	North	South	Mississippi
Did not influence my expectations	37.8	39.7	37.5	35.9
Slightly influenced my expectations	19.1	19.2	19.6	12.7
Moderately influenced my expectations	17.8	16.2	17.9	21.4
Greatly influenced my expectations	6.9	4.4	7.6	8.7
Does not apply to me	18.4	20.5	17.5	21.4

d. Reports from other hunters....

	Statewide	North	South	Mississippi
Did not influence my expectations	30.9	28.4	31.1	33.7
Slightly influenced my expectations	22.1	24.7	21.5	19.2
Moderately influenced my expectations	26.2	22.4	27.6	22.5
Greatly influenced my expectations	8.2	10.4	7.5	10.5
Does not apply to me	12.7	14.0	12.3	14.1

e. The number of ducks I saw while scouting...

	Statewide	North	South	Mississippi
Did not influence my expectations	19.2	17.7	19.5	22.0
Slightly influenced my expectations	16.2	16.0	16.4	15.5
Moderately influenced my expectations	22.1	20.3	22.5	22.4
Greatly influenced my expectations	19.7	23.0	19.1	16.2
Does not apply to me	22.8	23.0	22.5	23.8

11. Satisfaction with your 2017 duck hunting experiences can be influenced by many factors. Please tell us your level of satisfaction or dissatisfaction with each of the following items. **(circle one number for each item)**

a. The number of ducks I saw while hunting

	Statewide	North	South	Mississippi
Very dissatisfied	10.7	11.0	10.5	11.7
Fairly dissatisfied	21.0	20.6	21.1	19.9
Neither satisfied nor dissatisfied	27.2	23.6	28.2	27.3
Fairly satisfied	30.1	34.6	28.6	31.6
Very satisfied	11.0	10.3	11.6	9.6

b. My access to areas I wanted to hunt

	Statewide	North	South	Mississippi
Very dissatisfied	2.8	5.3	1.7	6.4
Fairly dissatisfied	11.0	10.9	10.8	13.8
Neither satisfied nor dissatisfied	26.0	23.1	26.8	27.2
Fairly satisfied	35.6	34.7	35.9	34.3
Very satisfied	24.6	26.1	24.7	18.4

c. Availability of hunting companions

	Statewide	North	South	Mississippi
Very dissatisfied	2.6	1.7	3.1	1.4
Fairly dissatisfied	7.3	5.6	7.5	8.9
Neither satisfied nor dissatisfied	32.1	33.2	31.6	34.0
Fairly satisfied	29.2	26.6	30.3	27.7
Very satisfied	28.8	32.9	27.6	28.0

d. The weather

	Statewide	North	South	Mississippi
Very dissatisfied	7.9	5.0	8.4	11.0
Fairly dissatisfied	18.2	19.2	18.2	14.1
Neither satisfied nor dissatisfied	35.3	39.4	34.1	33.9
Fairly satisfied	25.3	22.2	26.0	28.6
Very satisfied	13.4	14.2	13.2	12.4

e. The number of shot opportunities I had

	Statewide	North	South	Mississippi
Very dissatisfied	11.4	12.2	10.9	14.1
Fairly dissatisfied	23.2	18.1	24.5	24.6
Neither satisfied nor dissatisfied	25.2	23.0	25.9	24.3
Fairly satisfied	28.6	32.2	27.9	25.7
Very satisfied	11.6	14.5	10.9	11.3

f. The number of birds I harvested

	Statewide	North	South	Mississippi
Very dissatisfied	18.4	17.2	18.6	19.2
Fairly dissatisfied	23.2	21.5	24.1	18.1
Neither satisfied nor dissatisfied	27.1	22.8	28.1	29.5
Fairly satisfied	21.6	26.8	20.0	24.2
Very satisfied	9.7	11.6	9.2	8.9

g. The species of birds I harvested

	Statewide	North	South	Mississippi
Very dissatisfied	10.1	10.1	10.1	9.9
Fairly dissatisfied	11.3	12.8	10.8	10.6
Neither satisfied nor dissatisfied	37.6	33.2	39.2	33.9
Fairly satisfied	28.8	24.2	29.7	33.2
Very satisfied	12.3	19.8	10.1	12.4

h. The behavior of other hunters

	Statewide	North	South	Mississippi
Very dissatisfied	8.2	8.0	7.5	15.8
Fairly dissatisfied	16.2	14.0	16.3	21.5
Neither satisfied nor dissatisfied	41.7	44.0	41.8	33.1
Fairly satisfied	22.5	17.7	24.1	19.7
Very satisfied	11.4	16.3	10.2	9.9

i. The number of hunters at my location(s)

	Statewide	North	South	Mississippi
Very dissatisfied	8.9	7.7	8.6	18.0
Fairly dissatisfied	17.6	14.0	18.2	23.3
Neither satisfied nor dissatisfied	39.0	41.8	38.7	33.2
Fairly satisfied	20.5	14.4	22.6	16.6
Very satisfied	13.9	22.1	12.0	8.8

j. The beauty of the areas I hunted

	Statewide	North	South	Mississippi
Very dissatisfied	0.5	0.3	0.3	2.1
Fairly dissatisfied	1.1	0.3	1.4	0.7
Neither satisfied nor dissatisfied	16.4	16.6	16.6	14.8
Fairly satisfied	34.0	24.6	37.5	25.8
Very satisfied	47.9	58.1	44.3	56.5

k. The number of days I got to hunt

	Statewide	North	South	Mississippi
Very dissatisfied	15.8	16.8	15.6	13.4
Fairly dissatisfied	26.6	22.8	27.8	25.7
Neither satisfied nor dissatisfied	23.4	25.4	22.7	24.3
Fairly satisfied	21.2	21.8	20.7	23.9
Very satisfied	13.1	13.2	13.2	12.7

12. Overall, how satisfied or dissatisfied were you with your 2017 Wisconsin duck hunting experience(s)? (**check one**)

	Statewide	North	South	Mississippi
Very dissatisfied	7.5	7.2	7.1	11.3
Moderately dissatisfied	7.8	8.5	7.5	9.2
Slightly dissatisfied	18.2	14.4	19.7	14.8
Neither satisfied nor dissatisfied	16.0	18.0	15.9	12.3
Slightly satisfied	19.6	15.4	20.7	20.1
Moderately satisfied	20.8	20.3	20.7	23.2
Very satisfied	10.2	16.1	8.5	9.2

13. What affect, if any, did the following duck hunting season framework elements have on your satisfaction with the duck season? (**circle one number for each item**)

a. The 6 duck daily bag limit

	Statewide	North	South	Mississippi
Strongly negative effect	0.4	0.3	0.3	1.7
Slightly negative effect	4.8	3.7	5.1	4.8
No influence one way or the other	61.1	58.9	62.4	56.1
Slightly positive effect	14.7	16.7	13.9	16.3
Strongly positive effect	19.0	20.4	18.3	21.1

b. Hen limit for mallards

	Statewide	North	South	Mississippi
Strongly negative effect	4.3	7.3	3.4	6.3
Slightly negative effect	14.1	14.3	13.9	14.6
No influence one way or the other	58.3	52.0	60.5	53.7
Slightly positive effect	8.7	13.7	7.1	10.1
Strongly positive effect	14.7	12.7	15.2	15.3

c. The length of the season

	Statewide	North	South	Mississippi
Strongly negative effect	14.2	11.1	15.5	10.4
Slightly negative effect	20.0	19.1	20.3	21.1
No influence one way or the other	37.3	37.2	37.5	35.6
Slightly positive effect	15.0	15.1	14.9	13.8
Strongly positive effect	13.5	17.4	11.8	19.0

d. The timing of the opening day in my preferred zone

	Statewide	North	South	Mississippi
Strongly negative effect	10.3	14.0	9.1	11.5
Slightly negative effect	16.5	15.1	17.2	13.9
No influence one way or the other	45.9	42.5	46.8	47.2
Slightly positive effect	15.4	15.1	15.5	14.9
Strongly positive effect	11.9	13.4	11.4	12.5

e. The opportunity to hunt teal before the regular season

	Statewide	North	South	Mississippi
Strongly negative effect	18.6	22.0	17.5	21.5
Slightly negative effect	7.3	7.7	7.7	3.1
No influence one way or the other	50.9	51.7	50.2	54.7
Slightly positive effect	11.2	11.3	11.1	11.1
Strongly positive effect	12.0	7.3	13.5	9.7

14. What effect, if any, did the overall regulation framework, including elements not mentioned above (such as split seasons, different limits for different species, etc.) have on your satisfaction with your duck hunting season?

	Statewide	North	South	Mississippi
Strongly negative effect	5.1	6.1	4.7	5.9
Slightly negative effect	17.1	16.5	16.6	25.4
No influence one way or the other	63.9	65.3	64.5	53.3
Slightly positive effect	8.8	9.4	8.1	12.5
Strongly positive effect	5.1	2.7	6.1	2.8

Section 3: Duck Hunting Regulations in Wisconsin

1. If the duck season were longer than 60 days in the future (extending longer into December than the current closing date) how likely or unlikely are you to go duck hunting during the extended part of the season?

	Statewide	North	South	Mississippi
Very likely	40.2	37.2	40.3	49.3
Somewhat likely	18.7	13.5	20.5	15.0
Unsure	13.9	15.5	13.6	13.7
Somewhat unlikely	12.0	13.5	12.1	7.5
Very unlikely	15.2	20.3	13.6	14.5

2. The opening day of duck season varies from year to year based on federal rules and the calendar. Assuming a 60-day duck season, please tell us your preference for opening day of the duck season for each of the three zones. **(check one for each zone)**

Northern Zone

	Statewide	North	South	Miss
Saturday nearest Sept 24th (Sept 21 – Sept 27)	41.8	44.0	41.5	35.7
Saturday nearest Oct 1st (Sept 28 – Oct 4)	20.8	25.9	19.0	20.1
Saturday nearest Oct 8th (Oct 5 – Oct 11)	7.1	9.5	6.5	4.8
Later than the Saturday nearest Oct 8th	3.7	2.2	4.2	3.0
Makes no difference to me / Unsure	26.6	18.4	28.8	36.4

Southern Zone

	Statewide	North	South	Miss
Saturday nearest Sept 24th (Sept 21 – Sept 27)	17.1	14.9	18.0	13.4
Saturday nearest Oct 1st (Sept 28 – Oct 4)	31.9	29.1	32.1	36.3
Saturday nearest Oct 8th (Oct 5 – Oct 11)	16.3	15.5	16.3	17.8
Later than the Saturday nearest Oct 8th	10.0	4.9	11.4	7.9
Makes no difference to me / Unsure	24.8	35.6	22.2	24.7

Mississippi River subzone

	Statewide	North	South	Miss
Saturday nearest Sept 24th (Sept 21 – Sept 27)	11.7	14.0	10.8	14.1
Saturday nearest Oct 1st (Sept 28 – Oct 4)	18.8	17.7	17.3	32.6
Saturday nearest Oct 8th (Oct 5 – Oct 11)	12.1	12.3	10.8	21.2
Later than the Saturday nearest Oct 8th	9.8	5.1	10.8	12.9
Makes no difference to me / Unsure	47.6	50.9	50.2	19.1

3. To what extent do you support or oppose having a uniform, statewide opening day for the regular duck hunting season?

	Statewide	North	South	Mississippi
Strongly support	19.2	24.9	18.1	13.1
Support	22.6	19.9	23.5	21.7
Neither support nor oppose	44.6	41.9	45.2	46.8
Oppose	8.1	6.3	8.5	8.8
Strongly oppose	5.5	7.0	4.7	9.6

TEAL SEASON OPTIONS

Following the past four seasons of experimentation and evaluation, Wisconsin has been given the option from the United States Fish & Wildlife Service to continue to have an early teal hunting season. The following questions seek to understand your opinions about how the early teal season could be managed.

4. Have you participated in Wisconsin's early teal season in any of the following seasons?

(check one for each year)

	Statewide	North	South	Mississippi
2014	11.4	10.4	11.3	15.0
2015	13.4	10.5	13.5	20.5
2016	16.7	16.5	16.3	21.9
2017	16.6	16.0	17.1	13.6

5. How likely or unlikely are you to hunt the 2018 early teal season in Wisconsin?

(check one)

	Statewide	North	South	Mississippi
Very likely	11.9	11.7	11.9	12.8
Somewhat likely	14.9	10.7	16.5	10.4
Unsure	21.0	24.3	20.4	17.9
Somewhat unlikely	16.3	14.1	17.0	15.5
Very unlikely	35.9	39.2	34.3	43.5

6. Do you support or oppose the continuation of an early teal season in the future with the understanding that no days would be removed from the regular season?

	Statewide	North	South	Mississippi
Strongly support	15.2	13.6	15.5	17.3
Support	24.3	23.1	24.7	24.2
Neither support nor oppose	33.6	35.4	33.2	29.8
Oppose	12.6	11.4	13.1	11.7
Strongly oppose	14.3	16.5	13.4	17.0

Whether or not you support the continuation of an early teal season in Wisconsin, we would like to know your opinions regarding potential season framework.

7. Considering the other hunting seasons that occur during September in Wisconsin, which week during September would you prefer the early teal season to open? (check one)

	Statewide	North	South	Mississippi
1 st week of September	26.9	29.2	26.9	20.5
2nd week of September	20.8	17.4	21.7	21.6
No opinion	52.3	53.3	51.4	57.8

8. What would be your preference for the length of the early teal season in September? **(check one)**

	Statewide	North	South	Mississippi
5 days	30.7	29.6	31.1	28.8
7 days	18.0	20.4	17.2	19.0
9 days	17.1	18.8	16.4	19.0
12 days	10.5	10.1	10.3	15.3
16 days	23.7	21.2	25.0	17.9

9. What is your preference for the close of shooting hours during the early teal season?
(check one)

	Statewide	North	South	Mississippi
Sunset	54.8	54.3	54.2	61.5
7 pm closure (current rule)	45.2	45.7	45.8	38.5

10. What is your preference for setting the daily bag limit on teal during the early season?
(check one)

	Statewide	North	South	Mississippi
6 birds	32.1	32.9	30.9	43.4
5 birds	13.5	14.2	13.8	8.0
4 birds	20.9	20.3	20.9	21.7
3 birds	33.5	32.6	34.4	26.9

11. Would you be willing to support the continuation of the early teal season in exchange for creating a single uniform statewide opener on the Saturday nearest October 1st for the regular duck season? **(check one)**

	Statewide	North	South	Mississippi
Yes, I would support that tradeoff	31.9	35.4	31.2	29.0
I support the early teal season regardless of changing to a statewide opening day for ducks	26.3	21.6	27.6	27.7
No, I do not support that tradeoff	41.8	43.0	41.2	43.3

DUCK SEASON SPLITS

Wisconsin has the option of having a split in its duck season; that means a closure for a period of time during the season. For each of the three current zones:

First tell us if you would like to have a split season. If No, go to the next question. If you prefer a split season for the zone, first indicate your preference for the length of the closure and then indicate if the closure should occur during the first half (first 30 days) or second half (second 30 days) of the season.

12. Should the North zone have a split season? **(check one)**

	Statewide	North	South	Mississippi
Yes	26.1	18.8	27.9	30.4
No	73.9	81.3	72.1	69.6

12a. How many days should the closure be in the North zone? **(check one)**

	Statewide	North	South	Mississippi
5 days	44.3	32.9	47.6	31.1
7 days	31.7	35.7	31.1	34.0
9 days	8.7	17.1	6.8	11.3
More than 9 days	9.0	8.6	8.7	8.5
Unsure	6.3	5.7	5.8	15.1

12b. In the North zone, should the closure occur during the first half (first 30 days) or second half (second 30 days) of the season? **(check one)**

	Statewide	North	South	Mississippi
First Half	81.2	69.3	82.9	85.6
Second Half	18.8	30.7	17.1	14.4

13. Should the South zone have a split season? **(check one)**

	Statewide	North	South	Mississippi
Yes	39.8	26.6	42.9	46.8
No	60.2	73.4	57.1	53.2

13a. How many days should the closure be in the south zone? **(check one)**

	Statewide	North	South	Mississippi
5 days	46.7	30.8	50.9	37.6
7 days	22.4	29.8	20.1	31.8
9 days	11.0	13.5	10.7	8.8
More than 9 days	15.0	16.3	14.5	16.5
Unsure	4.9	9.6	3.8	5.3

13b. In the South zone, should the closure occur during the first half (first 30 days) or second half (second 30 days) of the season? **(check one)**

	Statewide	North	South	Mississippi
First Half	80.6	68.0	82.7	82.6
Second Half	19.4	32.0	17.3	17.4

14. Should the Mississippi River zone have a split season? **(check one)**

	Statewide	North	South	Mississippi
Yes	31.4	21.5	32.7	48.9
No	68.6	78.5	67.3	51.1

14a. How many days should the closure be in the Mississippi River zone? **(check one)**

	Statewide	North	South	Mississippi
5 days	34.0	28.0	36.4	26.1
7 days	31.1	30.5	29.7	37.8
9 days	10.0	17.1	8.5	11.7
More than 9 days	16.3	12.2	16.9	18.9
Unsure	8.6	12.2	8.5	5.6

14b. In the Mississippi River zone, should the closure occur during the first half (first 30 days) or second half (second 30 days) of the season? **(check one)**

	Statewide	North	South	Mississippi
First Half	79.3	72.0	80.3	80.3
Second Half	20.7	28.0	19.7	19.7

Section 4: Canada Goose Hunting in Wisconsin

This section looks specifically at goose hunting in Wisconsin. Even if you did not hunt in 2017, please continue with the questions until you are directed to the next section.

1. Did you do any Canada goose hunting during the 2017 seasons? **(check one)**

	Statewide	North	South	Mississippi
Yes	57.8	52.9	59.9	50.7
No*	42.2	40.1	40.1	49.3

* If respondent entered no, they were directed to skip ahead to section 5

2. How many days did you go goose hunting in Wisconsin in 2017? For each season, please write the number of days you hunted. If you did not hunt in a particular season, write a zero.

Early Season (Sept 1 – Sept 15)

	Statewide	North	South	Mississippi
Mean	1.9 days	2.5 days	1.7 days	1.9 days
Min-Max	0-15	0-15	0-15	0-13

Regular Season (Sept 16 – Jan 4)

	Statewide	North	South	Mississippi
Mean	7.2 days	7.0 days	7.1 days	9.7 days
Min-Max	0-60	0-60	0-45	0-60

3. Did you or a hunting partner do any scouting prior to goose hunting? (**check one**)

	Statewide	North	South	Mississippi
No scouting	46.7	31.2	50.9	47.4
Yes, 1 trip	13.5	14.9	12.9	15.1
Yes, 2 trips	9.5	14.5	8.2	9.9
Yes, 3+ trips	30.3	39.4	28.0	27.6

4. Overall, how satisfied or dissatisfied were you with your 2017 Wisconsin goose hunting experience(s)? (**check one**)

	Statewide	North	South	Mississippi
Very dissatisfied	7.4	5.5	7.8	10.9
Moderately dissatisfied	8.3	9.1	8.2	8.8
Slightly dissatisfied	18.8	10.9	21.6	9.8
Neither dissatisfied nor satisfied	31.0	25.5	32.3	33.2
Slightly satisfied	12.7	16.4	11.6	13.5
Moderately satisfied	13.0	16.8	11.6	15.5
Very satisfied	8.8	15.9	6.9	8.3

5. For Canada goose hunting there are numerous zones, subzones and time periods from September through December. We'd like to know first, if you hunted the zone/time period and second, if you did, how many geese you harvested. (**See back for map.**)

Did you hunt the zone? (% replied yes)

	Statewide	North	South	Mississippi
Early statewide season	51.4	51.5	51.2	55.3
Exterior north zone	52.7	65.2	50.0	34.9
Exterior south zone	50.5	38.3	53.8	44.3
Mississippi River subzone	41.3	32.2	42.5	56.4
Horicon zone	39.7	33.1	41.5	40.5

If you hunted a zone, mean # geese harvested

	Statewide	North	South	Mississippi
Early statewide season	3.1 geese	3.9 geese	2.8 geese	3.2 geese
Exterior north zone	2.5 geese	4.1 geese	1.1 geese	1.8 geese
Exterior south zone	3.5 geese	2.8 geese	3.6 geese	1.6 geese
Mississippi River subzone	0.8 geese	0.5 geese	0.3 geese	1.6 geese
Horicon zone	2.2 geese	0 geese	2.3 geese	3.0 geese

* averages presented here include zero values

6. Canada goose harvest in the Horicon zone has decreased by more than 90% since 1999 and the number of Horicon goose permit holders has decreased by 75% over the same time period. Would you support or oppose eliminating the Horicon goose zone and making the entire state a single Exterior zone?

	Statewide	North	South	Mississippi
Strongly support	36.2	24.5	39.4	34.9
Support	31.6	28.2	32.9	28.1
Unsure	26.7	43.1	21.6	33.9
Oppose	2.9	2.3	3.0	1.6
Strongly oppose	2.6	1.9	3.0	1.6

Section 5: Personal Background

The following questions are included so that your answers may be compared with other hunters. All of the information you provide is strictly confidential.

1. What is your age? I am _____ years old.

	Statewide	North	South	Mississippi
Mean	46.6 years	46 years	46.8 years	46.3 years
Min-Max	18-89	18-89	18-89	18-85

2. In what Wisconsin county is your primary residence? _____ County

3. What best describes the location of your primary residence? Check one.

	Statewide	North	South	Mississippi
Urban/suburban	45.8	29.6	51.4	38.2
Rural	54.2	70.4	48.6	61.8

4. What is your gender?

	Statewide	North	South	Mississippi
Female	5.2	5.0	5.5	3.3
Male	94.8	95.0	94.5	96.7

5. What is your average annual household income? (**check one**)

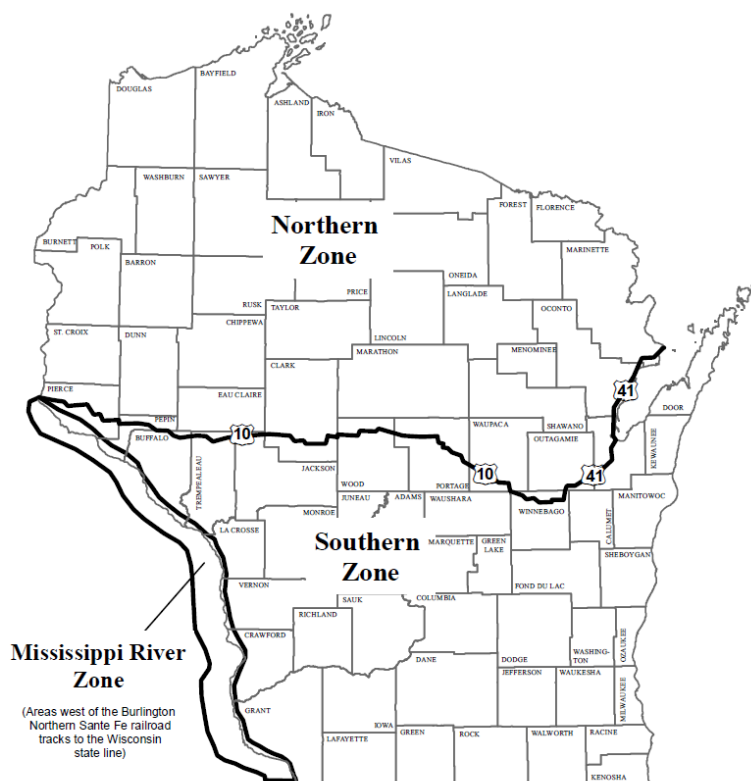
	Statewide	North	South	Mississippi
Less than \$10,000	1.4	1.8	1.2	2.4
\$10,000 – \$24,999	4.4	5.7	4.0	4.9
\$25,000 - \$49,999	17.3	18.1	16.9	19.5
\$50,000 - \$74,999	22.7	21.3	23.0	22.1
\$75,000 - \$99,999	18.9	21.9	18.1	18.4
\$100,000 - \$124,999	12.8	12.2	12.8	13.6
\$125,000 - \$149,999	6.9	6.1	6.9	8.7
\$150,000 or greater	15.7	12.9	17.1	10.4

- 6 Which, if any, of the following resources have you ever used to obtain information about waterfowl hunting in Wisconsin? (**check all that apply**)

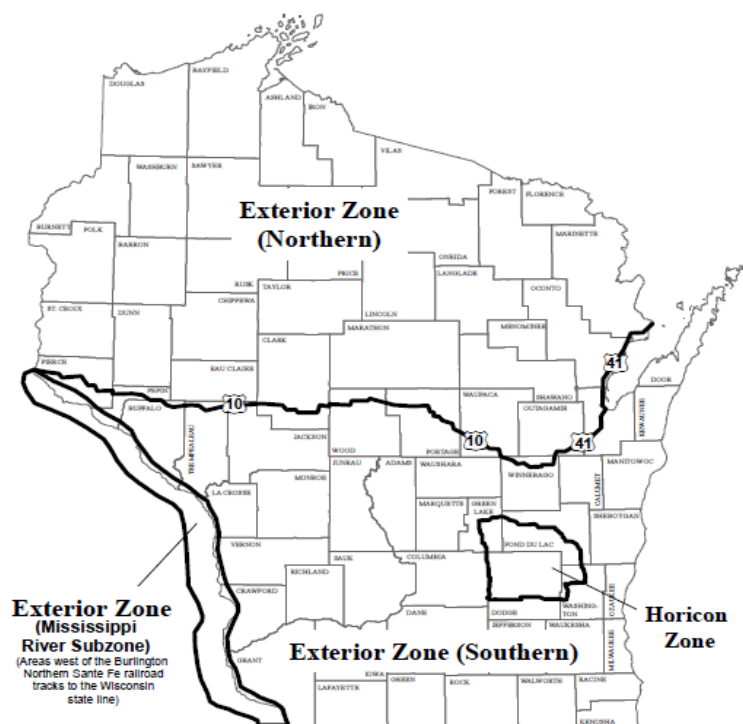
	Statewide	North	South	Mississippi
Hunting magazines	46.9	45.6	47.8	41.1
DNR website	59.0	54.4	60.7	56.3
Emails from DNR	16.9	13.3	18.5	12.1
Newspaper articles	23.7	23.3	23.8	22.7
DNR twitter	10.0	9.6	9.9	11.0
DNR apps on mobile devices	14.3	14.3	14.5	11.9
DNR regulation booklet	49.9	50.4	50.1	47.0
DNR Facebook	26.1	25.2	26.4	26.0
None of the above	11.2	12.7	10.8	11.3

7. Are you a member of any of the following waterfowl hunting organizations?

	Statewide	North	South	Mississippi
Ducks Unlimited	32.2	32.0	32.3	31.7
Wisconsin Waterfowl Association	6.0	4.0	6.9	3.1
Wisconsin Wildlife Federation	1.6	1.3	1.6	2.9
Delta Waterfowl	6.7	4.4	7.6	4.9
Other	1.6	1.7	1.6	0.9
None of the above	63.6	64.9	63.3	63.7



2017 Duck Hunting Zones



2017 Goose Hunting Zones